



Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Host:

Department of Physical Medicine and Rehabilitation
AIIMS Nagpur

Dates: 22nd to 25th September 2022



SOUVENIR

MESSAGE



Warm Greetings!!!

We the AIIMS Nagpur family welcomes you all for the IAPMR National midterm CME 2022 being hosted at AIIMS Nagpur.

I congratulate the Department of Physical Medicine and Rehabilitation, for organizing the IAPMR National midterm CME 2022 at this grand level. I congratulate Indian Association of Physical Medicine and Rehabilitation on 50th year golden jubilee celebration.

As an institute of national importance under PMSSY scheme of MOHFW, AIIMS Nagpur has always strived for "Passion for Excellence". In continuation of this motto the Department of Physical Medicine and Rehabilitation is the fully functional first PMR department in the region of Vidarbha, Maharashtra.

Department of Physical Medicine and Rehabilitation is providing state of the art clinical and rehabilitation services to the disabled patients suffering from various disorders across all age groups.

I encourage all delegates to take full advantage of the academic extravaganza planned meticulously by the Department of Physical Medicine and Rehabilitation.

I wish the conference a grand success.....

Jal hind!

MAJ. GEN. (DR) VIBHA DUTTA, SM
Director & CEO AIIMS Nagpur

MESSAGE



As the AIIMS Nagpur family, it is our pleasure to welcome you all for this national midterm CME of Indian Association of Physical medicine and rehabilitation.

Physical Medicine and Rehabilitation is a unique specialty which deals with musculoskeletal pain management and rehabilitation of differently abled. We, as an institute of national importance, are proud to say that we are having a dedicated fully functional department of physical medicine and rehabilitation here at AIIMS Nagpur. The department has done exceptionally well since its inception. During the testing times of the COVID 19 pandemic, patients with various lung complications were specially provided effective pulmonary rehabilitation services.

With the opportunity to organize this CME, our department shall now feature officially on the National map of PMR services.

In this proud moment, I once again welcome all the eminent faculty, guests and delegates and wish all the success to this conference.

Thank you!

Dr. Manish Shrigiriwar
Off. Medical Superintendent
AIIMS Nagpur

Date: 13.09.2022



It is a matter of great pride for AIIMS Nagpur that Department of PMR is hosting the IAPMR midterm CME 2022.

The Department of PMR is a new department set up about 2 years back with only 2 faculty. The development of the department has been very rapid & now the organizing of the IAPMR midterm CME 2022 shows the potential of the Department. Physical rehabilitation has attained the status of mainstay recovery module in many orthopedics, musculoskeletal, neurological & other debilitating disorders. The theme **“Recent clinical Advances in PMR”** is very pertinent. The scientific programme as well as preconference workshops are very meticulously planned.

I wish all success to the proceedings of the CME.

Heartiest congratulations to the organizers!

Dr. Mrunal Phatak
Dean (Academics)
AIIMS, Nagpur



It is indeed a great pleasure that we have a wonderful opportunity to meet physically after the Covid Pandemic here at Nagpur for our IAPMR Midterm CME. I have to really appreciate Dr. Harshanand Popalwar, the sole warrior of Physical Medicine and Rehabilitation of AIIMS Nagpur who has taken the this mammoth task of conducting the CME as Organizing secretary. Our Secretary of IAPMR Dr. Sanjay Pandey, true to his style of dynamism has associated himself with CME as Organizing Chairman and is providing the expert guidance. I also appreciate the whole organizing team for their concerted effort to make this CME a great success.

The theme of the conference is the need of the present-day physiatrist who want to know the recent advances in our specialty. I also learnt that the two workshops – on improving the functional and motor performance in children with developmental disorder and Hands of musculoskeletal ultrasound guided interventions -that are organized by the experienced faculty has full registration within a short span of time so much that they have to stop further registration.

I am also very happy that we have successfully started publishing the our new first edition of IJPMR from the new publisher by our active Editor Dr.Mrinal Joshi clearing all the obstacles. I request you to actively contribute for our journal. In this juncture I also thank all the authors who took their valuable time to contributeto our IAPMR Book under the prompt guidance of our Academic committee chairmanDr.JoySingh

I assure you all that this CME will be a wonderful academic experience to all of us and I request all the Physiatrists to register in large numbers and make this program a grand success. I also bestow my best wishes for the Program. Long Live IAPMR.

Chennai
07.09.2022

Dr. P. Thirunavukkarasu
President
IAPMR

MESSAGE

Dr. Sanjay Kr Pandey

Secretary

Indian Association of Physical Medicine and Rehabilitation

Head, Dept. of Physical Medicine & Rehabilitation,

AIIMS Patna- 801507

E-mail: secretary@iapmr.indrsanjaykr1@gmail.com

!!Greetings from the Indian Association of Physical Medicine and Rehabilitation!!

It gives me immense pleasure and joy that the Dept. of Physical Medicine and Rehabilitation, All India Institute of Medical Sciences, Nagpur, is organising the IAPMR MIDTERM CME 2022 at AIIMS Nagpur in the month of September 2022.

On behalf of IAPMR, I wish them all the very best. This being the golden jubilee celebration year of IAPMR, we are all looking forward to this wonderful scientific event. I am confident that it will be a huge success and a watershed moment in the history of IAPMR. On behalf of IAPMR, I assure the organising committee of all the support from the national body and also urge all the members across the country and abroad to attend this academic feast. The organising secretary, Dr. Harshanand Popalwar, left no stone unturned to make it the most memorable event to date. As the organising chairman, I welcome all the participants to this unique event.

The theme of the CME is "Recent Clinical Advances in Physical Medicine and Rehabilitation," which is very apt keeping in mind the current scenario and also the need of the hour. It has wonderful topics, including recent advances in the field of medical and surgical rehabilitation. There are two days of fully subscribed pre-conference workshops with delegates from across the country eagerly waiting to attend, which indicates the hunger for knowledge and learning new skills.

The main goals are to stay safe and healthy, as well as to stay informed. I would invite everyone to the special and unique Golden Jubilee Conference to join in large numbers to make this a successful event. Wishing the best for a successful event for the organisers.

Long live IAPMR! Jai Hind!!

(SANJAY KUMAR PANDEY)

Dr. Ganesh Joshi

Chairman

Scientific Committee

IAPMR Mid Term CEM 2022

AIIMS Nagpur



प्रिय मित्रों,

यह अत्यंत हर्ष की बात है कि प्रतिवर्ष आइएपीएमआर मध्यावधि सीएमई सितंबर में आयोजित होती है। यह माह राजभाषा हिंदी के नाम दर्ज है। अतः मैं हिंदी में अपना मनोगत व्यक्त कर रहा हूँ। वर्ष 2021-22 स्वतंत्रता के अमृत महोत्सव के रूप में पूरे देश में मनाया जा रहा है। ऐसे उत्तुंग मुहूर्त में मेरे शहर नागपुर में आप सभी का स्वागत है।

21वीं सदी के अंतिम दशक में जब मैंने शासकीय चिकित्सा महाविद्यालय और अस्पताल, नागपुर में प्रवेश लिया था तो फिजियाट्री का ही सपना संजोए हुए था। परंतु बालरोग, अस्थिरोग, तंत्रिकारोग के परे उसका साक्षात्कार नहीं हो सका था। मैं ही इकलौता भाग्यवान चिकित्सक था जिसे मेरे स्वर्गीय मामाजी के मार्गदर्शन पर एम्स नई दिल्ली में इस विषय की जानकारी हुई। वहाँ काम करते हुए डॉ. यू. सिंह के रूप में मुझे ऐसे गुरु मिले जिन्होंने मेरे सपने को सच करने की राह दिखाई। कुछ माह पश्चात ए एल सी पुणे में जनरल जैन से सीखते हुए भौतिकशास्त्र जैसे मानव शरीर में सजीव हो गया था। बौद्धिक दिव्यांगता में मेरी रुचि के चलते अनुवांशिकी चिकित्सा का परिचय तो हुआ था परंतु एम्स के सभी चिकित्सीय विभागों से मेरा परिचय कराने का श्रेय डॉ. संजय बाधवा को जाता है। डॉ. अथणी और डॉ. कोठारी से शल्यक्रिया सीखने के बाद मुझे अपने पसंदीदा क्षेत्र में काम करते हुए दिव्यांगजनों के अधिकार तथा मनोसामाजिक समस्याओं का भी ज्ञान मिला। सारांश में फिजियाट्री ऐसा विषय है जो स्वास्थ्य के सभी आयाम से परिचय कराने के साथ हमारे मरीजों को जीवन जीने की राह दिखाने की एकमेवाद्वितीय क्षमता रखता है। जो भी चिकित्सक इस विषय में सोच समझ कर आए हैं, मुझे विश्वास है कि उन्हें अपने करियर के सपने सच होते दिखाई दे रहे होंगे।

इस विषय में अब तक 3 दशक बिताने के बावजूद मेरे शहर नागपुर में फिजियाट्री के विकास के लिए मैं केवल सोच ही सकता था। कार्यक्षेत्र भोपाल में होने के कारण नागपुर में एक व्याख्यान देने के अलावा मैं आज तक कुछ नहीं कर सका था। अब एम्स नागपुर की गोद में डॉ. हर्षानंद पोपलवार के उत्साह से मुझे विश्वास है कि भारत के मध्य में अब फिजियाट्री का भविष्य उज्ज्वल है।

डॉ. हर्षानंद पोपलवार ऐसे एकमेव व्यक्ति की सेना हैं जिनके कंधे पर यह सीएमई आयोजित हो रही है। एम्स नागपुर में मेरे वरिष्ठ गुरुजन तथा चिकित्सक कार्यरत हैं। उनके सामने यह सीएमई आयोजित करते हुए हमने पूरा ख्याल रखा है कि फिजियाट्री के नवीन और अद्यतन जानकारी से आगामी पीएमआर विशेषज्ञों को हम अवगत कराएँ। मुझे पूरा विश्वास है कि जीरो माइल के इस शहर में आकर हमारे सभी आदरणीय शिक्षकगण और प्रतिभागी इस सतत चिकित्सा शिक्षा और उसके पूर्व आयोजित कार्यशालाओं का लाभ लेंगे। हाल में आप सीएमई के ज्ञान के अलावा नागपुर की भाषा और आसपास के वन्यजीव अभयारण्य तथा अन्य स्थानों का भी आनंद ले सकते हैं। यह कार्यक्रम संतरे के मौसम में नहीं आयोजित किया जा सका, इसलिए मैं आप सभी से आग्रह करता हूँ कि संतरों का मज़ा लेने के लिए उचित मौसम में यहाँ अलग से आएँ।

आपका खेही

MESSAGE

Respected physiatrists,

Greetings from AIIMS Nagpur!

On behalf of the Organizing Committee of IAPMR MIDTERM CME 2022 it is our pleasure to invite you all to participate in the first Physical conference “post COVID 19 pandemic” of the Indian Association of Physical Medicine and rehabilitation, being hosted at AIIMS Nagpur, Maharashtra.

This Conference is being hosted on behalf of IAPMR by the department of Physical Medicine and Rehabilitation, All India Institute of Medical Sciences, Nagpur, Maharashtra. The department of Physical Medicine and Rehabilitation, AIIMS Nagpur; started in November 2020; is the first fully functional PMR department in the Vidarbha region of Maharashtra providing Neuro-rehabilitation, pediatric rehabilitation, musculoskeletal pain interventions, diabetic foot care and in patient -clinical and rehabilitative patient care services to the differently abled patients.

We hope that this midterm CME and pre conference workshops shall enrich the latest knowledge in the field of physical medicine and rehabilitation.

We the organizing committee of IAPMR Midterm CME 2022 thanks to you all for attending this conference. We hope you all shall enjoy the hospitality of Nagpur.

Long live IAPMR

Dr Harshanand Popalwar
Organizing Secretary and Treasurer

ORGANISING COMMITTEE

Patron



Maj Gen (Dr.) Vibha Dutta, SM
Director and CEO, AIIMS Nagpur

Co Patron



Dr. Mrunal Phatak
Dean Academics, AIIMS Nagpur



Dr. Manish Shrigiriwar
Off. Medical Superintendent, AIIMS Nagpur

Advisors



Dr. R. K. Srivastava



Dr. S. Y. Kothari



Dr. B. D. Athani



Dr. U. Singh

Organizing Chairman

Organizing Secretary and Treasurer

IAPMR President



Dr. Sanjay Pandey



Dr. Harshanand Popalwar



Dr. P. Thirunavukkarasu

Scientific Committee

Workshop Convener



Dr. Ganesh Joshi



Dr. Chethan C



Dr. Sumedh More



Dr. Navita Vyas



Dr. Feroz Khan

Souvenir committee

Media & Publicity committee

Travel and accommodation committee



Dr. Maitreyi Patil



Dr. Vitthal Puri



Dr. Amit Ranjan



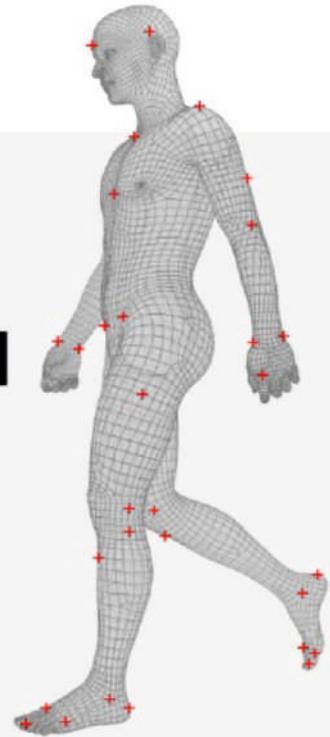
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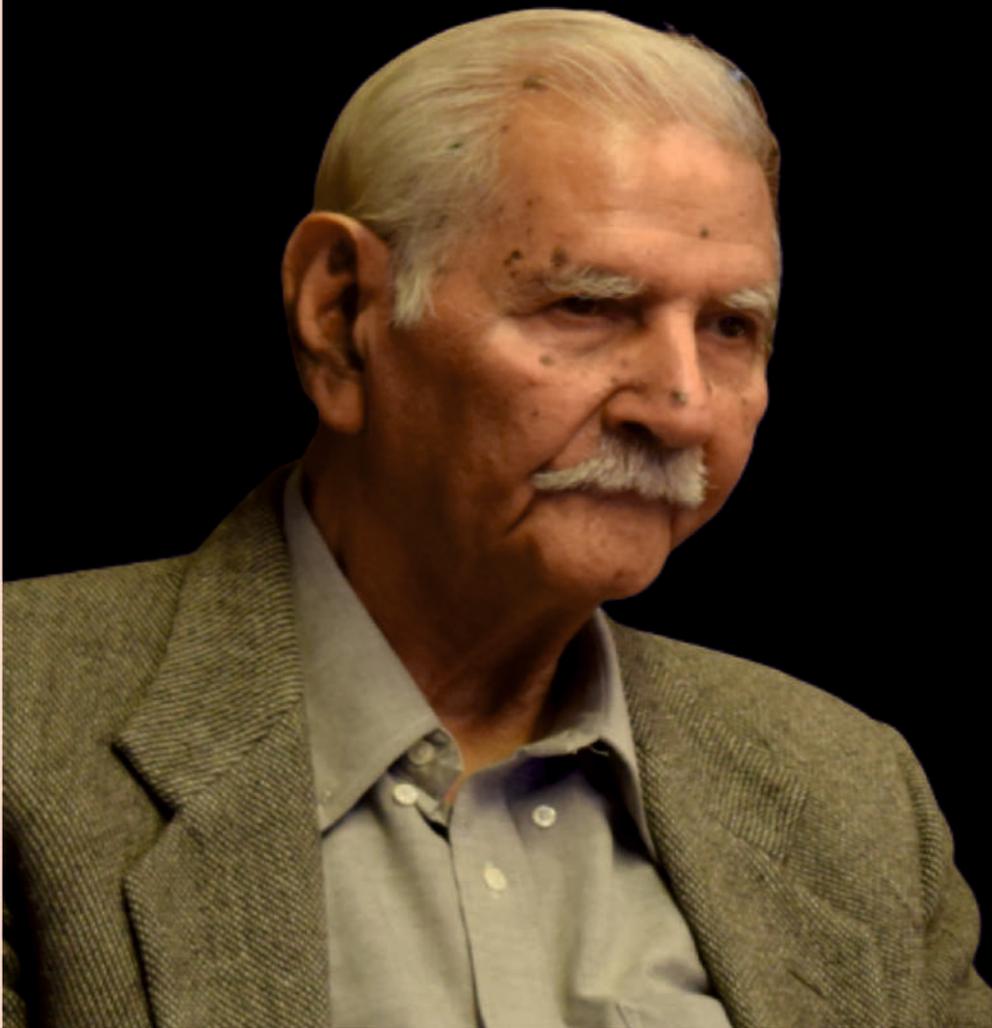
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Scientific Program

Day 1			
8.00 am to 8.45 am	Registration and Breakfast		
Day 1, Session-1 Spinal cord injury rehab			
		Faculty	Chairpersons
9.00 am to 9.15 am	Recent updates in acute rehab management of SCI	Dr NavinB Prakash	Dr Hariharan S, Dr Ranjan Wadhawa, Dr Al LqyanFidvi Dept of Burns and Plastic surgery, AIIMS Nagpur.
9.15 am to 9.30 am	Debridement and surgical techniques in pressure injury management in SCI	Dr Sumedh More	
9.30 am to 9.45 am	Phrenic nerve stimulation in SCI	Dr Mohit Kataruka	
9:45 am to 10:00 am	Localizing NLI and prognostication in SCI	Dr Srikumar V	
Day 1, Session-2 Stroke rehab			
10.00 am to 10.15 am	Dysphagia management in stroke rehabilitation	Dr Madhusree Sengupta	Dr U Singh, Dr Thirunavukkarasu, Dr PP Joshi, Professor and Head, Dept of Medicine, AIIMS Nagpur.
10.15 am to 10.30 am	Robot assisted gait rehabilitation in stroke survivors	Dr Amit Dhumale	
10.30 am to 10.45 am	Neuromodulation in stroke rehabilitation	Dr Padmakumar G	
10:45 am to 11:00 am	Virtual reality in stroke rehabilitation	Dr Osama Neyaz	
11.00 am to 11.15 am	High Tea/Poster Presentation		
Day 1 session 3 MSK rehabilitation			
11.15 am to 11.30 am	Recent advances of PRP therapy in OA knee	Dr Deepak Kumar	Dr Shipra Chaudhary Dr Ravi Gaur Dr Amrushi Raipure, Associate Professor, Dept of Anesthesia, AIIMS Nagpur.
11.30 am to 11.45 am	Orthobiologics in CTDs	Dr Sudhir Mishra	
11.45 am to 12.00 pm	Decision making in C Arm guided interventions for low back pain	Dr Prem Anand	
12:00 pm to 12:15 pm	Recent updates in rotator cuff injury Management	Dr. Akoijam Joy Singh	
12.30 pm to 1.15 pm	Inaugural Function		
1.15 pm to 2.00 pm	Lunch		
Day 1, Session 4 Other neurological Conditions			
2.00 pm to 2.15 pm	Acute care rehabilitation in TB† recent updates	Dr Padmapriya	Dr Manmohan Biswas Dr Shigy Francis Dr Vivek Kumar, Department of Trauma and Emergency, AIIMS Nagpur.
2.15 pm to 2.30 pm	Critical illness polyneuropathy	Dr Amit Ranjan	
2.30 pm to 2.45 pm	Paving the way forward National guide lines for Hips in cerebral palsy	Dr Anand Varma	
2.45 pm to 3.15 pm	Poster presentation		

3.00 pm to 3.15 pm	Tea break		
Day 1 Session-5 Surgical Rehabilitation			
3.15 pm to 3.30 pm	Making a surgical decision plan in cerebral palsy	Dr B D Athani	Dr S Y Kothari, Dr Dilip Khatua, Dr Samir Dwidmuthe Dept. of Orthopedics, Associate Professor, Dept of Anesthesia, AIIMS Nagpur.
3.30 pm to 3.45 pm	Deformity corrective surgeries- recent updates in techniques	Dr Pabitra Sahoo	
3.45 pm to 4.00 pm	Pearls in tendon transfer surgery	Dr Jaganatha Sahoo	
4:00 pm to 5:15 pm	50th year of IAPMR Where we stand & Where are we heading	Panelists	Moderator
		Dr R K Srivastava Dr B D Athani Dr S Y Kothari Dr Hari Haran Dr U Singh Dr R N Haldar Dr S L Yadav Dr. Thirunavukkarasu Padmanabhan Dr Sanjay Wadhwa	Dr Sanjay Pandey
End of day1			
Executive committee meeting 5.30 pm to 7.00 pm			
Banquet Dinner- 8.00 pm onwards			
Day 2			
8.00 am to 8.45 am	Breakfast		
Day 2, Session 1: Award paper session			
	Name of Topic	Presenters name	Chairperson
9.00 am to 9.08 am			Dr Feroz Khan Dr Akoijam Joy Singh Dr Amol Khade
9.08 am to 9.16 am			
9.16 am to 9.24 am			
9.24 am to 9.32 am			
9.32 am to 9.40 am			
9.40 am to 9.48 am			
9.48 am to 9.56 am			
9.56 am to 10.04 am			
10.04 am to 10.12 am			
10.12 am to 10.20 am			
Day 2, Session 2 Rheumatology and Rehabilitation			
10.30 am to 10.50 am	Making diagnosis in Spondyloarthropathy	Dr Sanjay Pandey	Dr R N Haldar, Dr Raj Kumar Dr Amol Dubey Associate Professor, Dept of General Medicine, AIIMS Nagpur.
10.50 am to 11.10 am	Recent updates in RA pharmacotherapy	Dr S L Yadav	
11:10 am to 11:30 am	Recent updates in Osteoporosis management	Dr Ajay Gupta	
11.30 am to 11.40 am	High Tea/poster presentation		
Day 2, session 3 Miscellaneous			
11.45 am to 12.00 pm	Newer technological advances and its relevance in Physiatry	Dr R K Srivastava	Dr U Singh Dr S Y Kothari DR PANKAJ KUMAR MANDAL
12:00 pm to 12.15 pm	ICF classification and its use in Physiatry	Dr Sanjay Wadhwa	
12.15 pm to 12.30 pm	Ergonomics/ Biofeedback	Dr Sunder S	
12.30 pm to 12.45 pm	Latest Advances in lower limb Prosthetics	Dr Anil Jain	
12.50 pm to 1.50 pm	National Midterm CME Quiz		
1.50 pm	Valedictory function followed by lunch		



Dr S K Varma

15.10.1931 to 25.08.2022



Teacher of Teachers: Dr SK Varma “What I learned from him” - Dr U Singh

On “Teacher's Day,” it was natural for me to think of Dr SK Varma. Since, Dr Varma left a very strong impression on us as our beloved teacher, I thought of sharing the moments of learning I had with him. So, instead of a tribute, I hope that this would find an interesting spot on your eager mind to learn from the teacher of teachers.

During the DPMR at Safdarjang Hospital, New Delhi, my interaction with him was a sentence or two only when he was visiting there. He was also my examiner. During the examination, it was apparent that he was not just examining but also teaching without actually indulging in teaching, it would have been against the rules of the examination to do that. I can't forget the question he asked about the Milwaukee's Brace during the practical examination, if it was dynamic or static. The kind of gesture he made at that time was enough to let me know that I was wrong without even letting me feel small or disgruntled. A teacher never lets his student down or feel bad, he only shows the path to enlightenment. Lucky I was to have an opportunity to work with him just a month after the examinations to continue to learn more from him.

Having just a PG Diploma and not a degree it was not an easy job to work at the prestigious institution with people rejecting you with questioning eyes. Being the first one from Delhi and no seniors to guide was a big impediment. Dr Varma was very kind to guide me when I was feeling myself to be on shaky grounds. Having interactions with other seniors who would just dismiss any discussion looking at my qualifications and an 'unknown' diploma in a 'misunderstood' subject, I felt deeply dejected. I asked Dr Varma if it would be good for me to do MS in Orthopedics to have firm footing in the department since all our teachers and the ones working in the department were qualified Orthopedic Surgeons, I was an unsure black sheep in my eyes. He nicely guided me to study and appear in the DNB examinations. Comparing the difficulty that I had competing with the orthopedic surgeons even for the Senior Residency, it strengthened my hold at AIIMS despite opposition from the Dean who was also an orthopedic surgeon. During the preparations for the DNB, he would give me patients to work on and discuss. I was awestruck with his knowledge of the subject, specially considering different differential diagnoses. He would ask me what have I read lately, reinforcing my intentions to study, then ask me questions pertaining to those chapters. When I fumbled or my flow of thoughts was with hicks and starts, he said, your preparation should be such that the answers should flow out like an unobstructed stream. That reinforced thoroughness in understanding the subject. No doubt, it made my three hours long viva during the finals of DNB practical examination sail smoothly. Not many teachers take up the responsibility of teaching the post-graduates so passionately as Dr Varma did.

While he was looking after the work of the Medical Superintendent, even as a Senior Resident, he would leave me alone in the department to do all the clinical work. There were times when the other Senior Residents or the Faculty (only lecturer) left to find greener pastures in Orthopedics (it was hard to find people to come and work in PMR). When he would go out of station for meetings or conferences, he would hand the clinical responsibility of the department onto me. He would come back and talk about the difficulties I faced being the only doctor, that too at a resident level, to work in the department with the administrative charge given to some senior paramedical officers. This wearying situation made me learn the nitty gritty of living in harmony with the anticipated but covert hostility. Not only that but having to make independent decisions in difficult clinical and political situations was a big learning he enticed upon me. Of course, I faltered quite a few times only to be ushered back into confidence with the words of wisdom he had for such situations. There were times when our colleagues would have belligerence on one account or the other, he never took sides but

everyday situations and not be dependent on others for taking decisions or resolving tough situations.

He was a favorite in the scientific meetings and was frequently called for CME lectures. He would ask us to read the topic and prepare the draft talk. It wasn't ever the case as most teachers these days do like to scold the student and still present what was prepared by the student without any reference to his or her contribution. He would sit down, read every sentence and ask us the finer points to be polished further. It never happened that our talk would go just like that. He had a style. He was so well read and had the propensity to continue reading the journals, the talk would come out like never before. In addition, he would give due credit to us for the contributions made by us in his talk by including our names. He would then come back after presentation and discuss the questions he was asked and the doubts which were raised by the talk and his flow of thoughts on difficult topics, continued to amaze us with the teaching under the cover of relating stories. This improved our reading skills and presentation skills and the ways to emphasize the points we were trying to make during our presentations.

He understood the masses and their needs, specially the ones having one or the other kind of disability. That was the postulation behind the development of the AIIMS Squatting Limb Prosthesis. He continued to push us to do research and discuss newer and newer ideas. He would make a face of dismissal if the idea was not appealing and would give suggestions to streamline our thoughts. Looking at his innovation of the squatting prosthesis, we ventured to develop the caliper enabling squatting and cross-legged sitting. It led into the development of the multi-axial orthotic hip joint for use in calipers enabling squatting and cross-legged sitting easing the life of children in the school where floor level classes were held in addition to ease of toileting in the rural and urban areas alike. His teaching of realistic research and promotion of doing the same lead to this development. How many teachers push their students to have pragmatic thinking into the needs of the society prompting meaningful research.

When we had the indoor facility for PMR, we were unaware of the problems of encroachment to obtrude our beds by other specialties. He persuaded us to keep admitting patients and have a flow of patients ready to occupy the vacancies in the ward. It was the order of the day to have patients admitted by other specialization during the night hours in an emergency if their beds were full. He taught us the administrative prowess in managing the beds from being misappropriated.

Dr Varma was very active in drafting guidelines for the government. Noteworthy amongst those were disability evaluation, camp approach for the persons with disability where institutional facilities were not available, rehabilitation of the persons with mental retardation and so on. He organized series of workshops, seminars and conferences including the first international conference of IAPMR. He bestowed responsibility on people like me in the department to manage the organization but guiding us all through. This gave us the learning the organizational skills, dealing with dignitaries, seeking permissions from different government organizations and raising funds from the governmental organizations and others for the conferences. If he used our services like asking us to do running around for these, he would adequately compensate us for the expenses incurred. I had experiences on the contrary with others organizing such events where even though we were promised reimbursements, that never came. The truthfulness and the confidence instilled into any dealings with him made us learn the high morals and honesty. Teachers are living examples that show the way by doing the right thing rather than just preaching. Dr Varma was a true example of that.

Starting right from my Senior Residency, seeing the department expand, Dr Varma never said no to seeking equipment provided it was justified. In a government set up, it is mandatory to give a justification for the amount spent. You have to draw appropriate specifications which are generalized rather than suiting only one particular equipment. The purchase process has set rules. He exposed us to such processes right at the time when we did not have such responsibilities on our shoulders. He would see and guide us where we faltered. This made us learn more and more of administrative

skills we would not have acquired otherwise. We continued to give such exposure to our students learning from him as most of our students have to go and manage the newly set up departments in the institutions. Such were the ways of the great teacher. For a faculty member at AIIMS or for practically all teaching institutions, the mandate is three pronged: Teaching, Patient Care and Research, each having equal weightage and additional is administration. Only a teacher with the vision like that of Dr SK Varma could teach us the knack with so much of subtlety that we did not even know that we were learning. His teaching was hitting us at our subconscious level without ever having a strain associated with learning anything new or seemingly a frivolous load at that time.

There was a time when I was stuck at a crossroad of my carrier. I sought his advice. He said, "If I tell you what you do and it works out well, everything will be fine. But the trouble brews when it does not work in the long run. I do not wish to be blamed for a decision I took for you." Even though I hated myself at taking the trouble of asking him and getting no answer at that time to clear the clouds over my dilemma; I appreciate his straightforwardness with insight into human thinking foreseeing the problems that might have cropped up in future. He was absolutely right in making me take not only my own decisions but also helped me think deeply and feel responsible for the decisions I made. Such was the beauty of the great teacher.

Having spent more than a decade while being with him at AIIMS and more than three decades after he left AIIMS, it has always been a pleasure to interact with him. He had been so kind to invite us to his place for every social event or otherwise and also having faith in his student like me to give him advice when he was suffering, even at that time I was non-plussed with the knowledge he had but with his unassuming ways he was secretly teaching us even under such situations.

To sum up, only one thing I would like to say, God does not send his emissaries to this world so often to make this world a happy place full of learning. Dr Varma was a reverent teacher par excellence. I bow my head in veneration to this godly teacher.

Dr U Singh

Professor and Head
Department of PMR
Mahatma Gandhi Medical College and Hospital
MGUMST, Sitapura
Jaipur, Rajasthan.



Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- *Recent clinical advances in Physical Medicine and Rehabilitation.*

Pre conference Workshop-1

Hands on workshop on

"Improving functional and motor performance in children with developmental disorders"

Date:
22nd September
2022





Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Workshop Highlights



Workshop Convener-
Dr Feroz Khan
Consultant and Head
Sei Sanjeevani Cerebral Palsy
Centre and
Mohana Orthotic & Prosthetic
Centre, Chennai

- Theory and hands on training:
Detailed assessment and
management of children with
developmental disorders.
- Dedicated resource faculties with
expertise in pediatric rehabilitation.
- Live demonstration of clinical cases

Resource Faculties



Dr Ritu Mujumdar
Professor & Head
Department of PMR
Lady Hardinge Medical College
New Delhi



Dr Meenakshi Girish
Professor and Head
Department of Pediatrics
AIIMS Nagpur



Dr Urmila Dahake
Associate Professor
Department of Pediatrics
AIIMS Nagpur



Dr Shehadad. K
Associate Professor
Dept of PMR
Government Medical College
Kozhikode



Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Workshop Schedule

22 nd September 2022		
Time		Speaker/faculty name
8.15 am to 9.00 am	Breakfast	
Session 1:		
9.00 am to 9.15 am	Inauguration	Dr Manish Shrigiriwar Off. Medical Superintendent, AIIMS Nagpur
9.15 am to 9.45 am	Genetic issues in developmental disorders.	Dr Ganesh Joshi Assistant Professor CRC Bhopal
9.45 am to 10.30 am	Introduction to IDDEA (Identification of Developmental Differences and Early Action)	Dr Meenakshi Girish Professor and HOD, Dept of Pediatrics, AIIMS Nagpur
10.30 am to 11.00 am	Autism- Diagnostic workup and pharmacotherapy	Dr Urmila Dahake, Associate Professor, Dept of Pediatrics , AIIMS Nagpur
11.00 am to 11.15 am	Tea break	
Session 2		
11.15 am to 12.00 pm	Rehabilitation in autism	Dr Ritu Mujumdar, HOD, Dept of PMR, LHMC New Delhi
12.00 pm to 12.45 pm	Motor control in CP- linking neural basis for best practice	Dr Shehadad. K Associate Professor Government Medical College, Kozhikode
12.45 pm to 1.30 pm	Improving motor performance in children with cerebral palsy.	Dr Feroz Khan, Consultant Psychiatrist Chennai
1.30 pm to 2.15 pm	Lunch break	
2.15 pm to 3.00 pm	Case 1 and 2- Cerebral palsy	Dr Feroz Khan, Dr Meenakshi Girish
3.00 pm to 3.45 pm	Case 3 and 4- Autism	Dr Ritu Mujumdar, Dr Urmila Dahake,
3.45 pm to 4.30 pm	Case 5 and 6- Cerebral palsy	Dr Feroz Khan, Dr Shehadad. K
4.30	Feedback and Tea	
End		





Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Pre Conference Workshop-2 "Hands on-Musculoskeletal ultrasound guided interventions"

Date:
23rd September
2022





Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Workshop Highlights



Workshop Convener
Dr Navita Vyas

MBBS, MD, DNB, (PMR) CIPS (USA)
Consultant, KADH Mumbai

Resource Faculties



Dr Sreejith,
MD PMR
Professor

Govt medical college, KOTTAYAM Kerala

- Dedicated hands on workshop on MSK ultrasound – Diagnostic and interventional procedures.
- Participants shall be divided into Small groups (10 to 12 participants in one group).
- Every group shall have one ultrasound machine for hands on practice.
- Dedicated resource faculties with expertise in MSK ultrasound.
- Every participant shall get chance to practice ultrasound on normal subjects.
- Live demonstration of interventional procedures



Dr Raj Kumar
MD PMR

Associate Professor
IGIMS Patna



Dr Sumedh More
D. Ortho, DBN PMR

Associate Professor
AIIPMR Mumbai



Dr Amrushi Raipure
MD Anesthesia
Associate Professor
Dept. of Anesthesia
AIIMS Nagpur



Dr Chethan C
MD PMR

Assistant Professor
RML Hospital Delhi



Dr Sanjeev Sharma
MD PMR
Consultant

CK Birla Hospital/RBH Jaipur



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iapmrmidtermcme2022@gmail.com



Indian Association of Physical Medicine and Rehabilitation

IAPMR MIDTERM CME 2022

Theme :- Recent clinical advances in Physical Medicine and Rehabilitation.

Workshop Schedule

Time	Speaker/faculty name	
8.15 to 9am	Breakfast	
Day 1, Session 1: Common session: Theory lecture		
9.00 am to 9.15 am	Inauguration	Dr Mrunal Phatak, Dean- Academics, AIIMS Nagpur
9.15 am to 10.00 am	Basics of Ultrasound	Dr Navita Vyas
Hand on live demonstration- In-rotation		
10.00 am to 10.40 am	Station 1 Dr Sreejith	Shoulder: Rotator cuff; SASD bursa; Rotator cuff interval; Posterior Gleno-humeral joint; Supra-scapular nerve block, AC joint.
10.40 am to 11.30 am	Station 2 Dr Raj Kumar	Elbow: Common flexor origin; Common extensor origin, Cubital tunnel. Wrist - Carpal tunnel; Guyon canal, De Quervain's tenosynovitis.
11.30 am to 11.45	Tea break	
11.45 am to 12.25 pm	Station 3 Dr Sumedh More	Hip: Hip joint, Piriformis muscle Thigh - Greater trochanter; lateral cutaneous nerve of thigh. Obturator nerve;
12.25 pm to 1.05 pm	Station 4 Dr Chethan C	Knee: Supra-patellar recess; Genicular nerves; ITB, Pes anserine bursa, Ankle and foot- Ankle joint; Sub-talar joint; Tarsal tunnel; Retro- calcaneal bursa; Plantar fascia.
1.05 pm to 1.45 pm	Lunch break	
2.00 pm to 2.40 pm	Station 5 Dr Navita Vyas	Cervical spine: Cervical spine facet, medial branch block, Stellite ganglion block, Greater occipital and 3 rd occipital nerve, other Facet joints.
2.40 pm to 3.10 pm	Station 6 Dr Sanjeev Sharma	Lumbar spine facet, Medial branch block, Caudal epidural, SI joint,
3.10 pm to 3.20	Tea break	
3.20 to 4.00 pm	Station 7 Dr Amrisha Raipure	Brachial plexus- different approaches, Erector spinae block, Ilioinguinal nerve block, Iliohypogastric nerve block
4.00 pm to 4.40 pm 4.40 pm to 5.00 pm	All stations	Ask anything and practice stations: Questions and answers

Recent updates in RA pharmacotherapy**Dr S L Yadav****Department of Physical Medicine & Rehabilitation****All India Institute of Medical Sciences, New Delhi – 110 029**

Rheumatoid arthritis is an autoimmune disorder, involves multiple joints associated with serious cartilage destruction. This causes disability and which in turn affect the quality of life. Numerous treatments are existed to combat this disease; however, they are not very efficient and possess severe side effects.

Therefore, newer therapies are developed to overcome all these limitations. These include different monoclonal antibodies, immunoglobulins, small molecules used for immunotherapy and transgenes for gene therapy. One of the main goals of these new generation therapeutics is to address the underlying distressing biological processes by specifically targeting the causative agents with fewer systemic side effects and greater patient console. In spite of ongoing research in this field and successful clinical trial; till date, a limited molecule has got FDA approval for treating this devastating disease.

This paper will highlight the overview of conventional therapy and advancements in newer therapeutics including immunotherapy and gene therapy for rheumatoid arthritis. Further, different novel techniques for the delivery of these therapeutics of active and passive targeting are also be discussed.

Rehabilitation and Ergonomics**DR.S.Sunder MD [PMR]****Mobile : 9940022234****Designation: C.E.O and Chief Ergonomic Consultant****PREM ERGO SOLUTIONS****Introduction**

The goal for both Rehabilitation and ergonomics is to enable, enhance and modify human function; hence they are quite similar. Ergonomics also involves a multidisciplinary team. The physiatrist possesses several skills that are needed to do an ergonomic survey. Epidemiological studies reveal that back and neck pain afflict upto 80% of the population, and good ergonomics has been shown to prevent incidence where the causes are multifactorial. Many industries have departments where ergonomic evaluation is needed. The occupational physician based in the factory has access to the medical data of the workers.

Aim/Objective

Application of the discipline of Medical and Engineering ergonomics to identify ergonomic risk factors, work stress, and criticality of the operations in each shop floor

Methodology

Measurements of heights, and distances of machines and equipment in the critical areas of operations in a major Steel Plant and Power plant, using RULA, NIOSH, REBA ART and Lifting Index checklists.

Photography and videography of the workers during the process

Questionnaires related to work stress and incidence of RSI

Physiological, anthropocentric measurements of man such as reach, grip strength for postural stress.

Evaluation of office ergonomics, computer work stations and seating

Hand tool ergonomics, workspace layout

Recommended work limit and ergonomics of lifting

Conclusion

There are several areas of operations in the plants where ergonomics plays a vital role in the promotion of musculoskeletal health of the man at work. The role of the physiatrist in an ergonomic survey is to do a detailed study of the work environment, evaluate ergonomic risk and along with other team members match the job with the worker profile and suggest to the occupational physician and safety engineers, methods to reduce such risk. Long term follow up of recommendations would show up the benefits of such a ergonomic program.

Pressure ulcer surgeries in spinal cord injuries

Dr Sumedh More

Associate Professor

AIIPMR Mumbai

A pressure injury is an area of localized damage to the skin or underlying soft tissue, usually over a bony prominence, that has resulted from direct pressure.

Treatments for pressure ulcers are:

Debridement : Surgical debridement is an established approach to the care of pressure ulcers and other chronic wounds. **Skin grafting** is a surgical procedure that involves removing skin from one area of the body and moving it, or transplanting it, to a different area of the body. Its is of two types full thickness and partial thickness skin graft. Skin grafts also are classified by their donor site as autograft, self; homograft, same species; isograft, homograft between genetically identical people; allograft, homograft between genetically different people; and heterograft/xenograft, different species. **A flap** is a unit of tissue that is transferred from donor site to recipient site while maintaining its own blood supply. They are of **two types local and axial flaps**. Thorough physical examination of the defect with respect to its size, placement surrounding skin lesions, laxity, colour match, scars and skin tension lines should be done. Planning is to done by making templates. **Depending upon movement** of flap they are termed as advancement flap and pivot flap (transposition flap and rotation flap). Post operative care consist of proper wound care, antibiotic coverage, sutures removed at 2-3 weeks and revision if required - 6 months. Complications includes infection, dehiscence, necrosis, failure due vascular insufficiency factors, it is imperative to predict potential outcome for setting short-term and long-term goals.

Localizing NLI and prognostication in SCI
Dr Srikumar Venkataraman,
Additional Professor,
Dept of PMR, AIIMS, New Delhi

Assessing the neurological level of injury (NLI) and prognosticating the outcome i.e., neurological recovery and functional outcome like walking and performing activities of daily living is the first step of rehabilitation. The International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI) was developed by American Spinal Injury Association (ASIA) for assessment of traumatic spinal cord injury (SCI). This standard of classification is also endorsed by the International Spinal Cord Society. The ISNCSCI helps identify the neurological level of injury (NLI) and provides an insight into the severity of injury. The five sequential steps of ISNCSCI include 1) determining the sensory level of right and left sides, 2) determining the motor level of right and left sides, 3) determining the NLI, 4) determine whether the SCI is complete or incomplete and 5) finally determine the severity of injury using ASIA Impairment Scale (AIS) grades (A to E). The AIS grading is based on the Frankel scale and this grading is a key aid to prognosticate neurological recovery when assessment is done within 72 hours of trauma. Prediction of neurological recovery using the radiologic findings in MRI may be useful when complete neurological examination is not possible. Functional outcome of SCI depends on the NLI, severity of injury (AIS grades) and other factors like rehabilitation, age, comorbidities, complications, etc. Several prediction models using clinical and imaging parameters are available in literature to predict functional outcome like walking in SCI. Currently there are no models or clinical parameters that can predict neurological recovery or functional outcome accurately. However using the ISNCSCI and considering other

ICF Classification and its Applications in Physical Medicine and Rehabilitation (Physiatry)

Dr Sanjay Wadhwa

Professor & Head,

Department of Physical Medicine and Rehabilitation,

AIIMS, New Delhi - 110029

(E-mail address: wadhwadr@gmail.com)

Background:

The International Classification of Functioning, Disability and Health (ICF) is a classification of health and health-related domains. It was developed by WHO and formally endorsed on 22nd May 2001. (1)

The ICF classification complements WHO's International Classification of Diseases-10th Revision (ICD), which contains information on diagnosis and health condition, but not on functional status. (2)

Applications of the ICF:

ICF is a multipurpose classification system that was anticipated by WHO to have a wide range of applications in clinical care, public health, and health sciences research, all of which are important in Physical Medicine and Rehabilitation.

1. Some of the terms and definitions used in ICF are among the key concepts in PMR practice, namely functioning, disability, impairment, activity, participation, contextual factors, facilitators, barriers, capacity, performance etc. ICF proposes the 'biopsychosocial model of disability' which is at the core of practice of PMR. (3)
2. ICF provides a framework for information collection that can be included in patient records in PMR practice.
3. Once a rehabilitation team is aware of the daily activities a patient is required to participate in, the problem-solving sequence set up by the ICF can be utilized. (4)
4. ICF Core Set have also been developed for a few conditions related to PMR practice such as autism spectrum disorders, breast cancer, cerebral palsy, chronic obstructive pulmonary diseases, chronic ischemic heart disease, chronic widespread pain, dementia, depression, diabetes mellitus, low back pain, obesity, osteoarthritis, osteoporosis, rheumatoid arthritis, spinal cord injury, stroke, etc.
5. In the case of rehabilitation of persons with spinal cord injury, ICF is an important tool, because it evaluates from the functions of the body, forms of accomplishment of the activities of daily life and involved environmental factors. (5)
6. ICF also touches upon disability assessment. An impairment, limitation or restriction, is qualified from 0 (No problem; 0-4%), 1 (Mild problem: 5-24%), 2 (Moderate problem: 25-49%), 3 (Severe problem: 50-95%) to 4 (Complete problem: 96-100%). However, in India, a totally different concept and method is followed. (1)

Faculty Abstract

7. ICF offers an international, scientific tool useful in rehabilitation research to study disability, in all its dimensions. (6)
8. The ICF can be used as a valuable unifying model in rehabilitation medicine practice, research and education.
9. The definition of disability can influence advocacy cases and the ICF can be used to support the rights-based approach to disability. (7)
10. ICF also provides a valuable framework for monitoring aspects of the UN Convention on the Rights of Persons with Disabilities (UN 2006), as well as for national and international policy formulations. (8)

Conclusion:

I was the first in PMR in India to present a paper on ICF almost 19 years ago in a PMR National Conference. So many years later, it is observed that although the volume of literature applying the ICF has increased significantly but the PMR literature from India on ICF is very limited. This situation needs to change and for that IAPMR can play an important role.

Making Diagnosis in Spondyloarthropathy

Dr Sanjay Pandey

Additional professor

AIIMS Patna

Spondyloarthritis (SpA) is inflammatory arthritis characterised by inflammation of the sacroiliac joints (SIJ) and the axial spine, with common symptoms such as chronic low back pain, early morning stiffness exacerbated by inactivity and fatigue. The diagnosis of axSpA remains challenging due to the often-insidious onset of this condition, with initial presentation not always being immediately apparent as an inflammatory disease. Although chronic back pain (CLBP) lasting longer than twelve weeks is a key characteristic of SpA, it also occurs in many patients with non-inflammatory low back pain. Diagnosis of Spondyloarthritis (SpA) still remains challenging, resulting in delay in diagnosis for many patients. Despite advancement in recent decades, patients with SpA experience many years of diagnostic delay and this remains an extensive worldwide problem. The last decades have seen major advancement in the field of Spondyloarthritis (SpA), but there are still many important areas of concern which need to be addressed. In the future, we can expect with the increasing use of artificial intelligence, machine learning, online and social media platforms there will be increased awareness of the disease and early referral of patients to rheumatology and rehabilitation clinics. In addition, more specific diagnostic tests will be available, especially advanced imaging methods and new biomarkers. This will allow most patients to be diagnosed at an early stage of the disease. Finally, artificial intelligence techniques will allow for the analysis of large-scale data to answer relevant research questions for the diagnosis and management of patients with SpA.

Keywords

Spondyloarthritis, axial Spondyloarthritis, diagnosis, treatment

Recent Developments in Assistive technologies in PMR

Prof R K Srivastava, MS(Orth), DNB(PMR)

Assistive Technologies were highlighted in 2016, when WHO released its Priority Assistive Product List(APL) of 50 products with aspiration to follow the footsteps of WHO *Model list of Essential Medicines*.

The primary function of these products was to maintain and improve individual's functioning. Initially its target users were elderly and PWDs, but subsequent development in this sector lead to switchover to "Life Changing Assistive Technology for All", mostly called as AT 2030, which is a global strategy from Department of International Development. It aims creating 6 different sub-programs in partnership with global institutions/organization. These programs were (1) Support AT Scale (2) Coordinate Research (3) Spark Innovation (4) Drive Availability/Affordability (5) Open up Market Access (6) Build Community Led Solutions.

India through ICMR created a Disability Research Cell, National Centre for AT(N-CAT) and a National Essential List for Assistive Products (NEL-AP) almost parallelly during this time. Research Cell is annually sanctioning research projects, N-CAT is building indigenous end-to-end R&D product development system with AIIMS and IITs and NEL-AP is creating a priority model Assistive Products List, which could be provided through 3-tiers of Indian Public Health System.

As a PMR experts, It is necessary for us to get involved with this global/national initiative, because we are the largest user/prescriber for these Assistive Products. On one hand, it has got a rehabilitative value, on other hand, it has a health promotive and preventive value. The Assistive Products are mostly unavailable in public health centers; even if they are available, they don't allow prescriber/end user to exercise choice; mostly product of choice has to be imported and finally, there is no system of repair/maintenance. Once a system can flawlessly operate for your car/bike/ TV in India, it can also work for APs , provided India understand its business value, social relevance and its customer usefulness.

In light of above, AT 2030 vision become very relevant for India, because we are on the same path through ICMR, all we need to build global/national partnership for all six (6) sub-programs, so that we have our own Priority List, Manufacturing Units, Supply-Chain System, Prescription-Fitment Centre, Training for HR and a strong end to end indigenous R&D product Development and translational Ecosystem.

At present India is 80% import dependent for these Assistive Products, which may increase in future due to large new AI based digital products/wearables. As a PMR expert, this is new dimension which is opening up before young physiatrists, which will help them in their clinical practice as well as in organizing remote rehabilitation care, robotic rehabilitation service and domiciliary services.

Emerging areas are (1) Tele-rehabilitation program- Covid and lung Rehab/neurological Rehab/ Cancer Rehab./Cardiac Rehab./Long term Rehab Program (2) Provider2 Provider and Provider2 Patient Rehab. Consultation-a type of remote care (3) CAD-CAM services (4) Repair/maintenance services (4) R&D in AT products (5) Manufacturing/ Business development of AT products/IT enabled network for primary/secondary specialist rehab care.

A proactive action by individuals/organization both are needed for making it PMR friendly through our CMEs/News Letter/Journals/Whatsapp group.

Neuromodulation following Stroke
Dr Padma Kumar G
Asst. Professor
Dept Of PM& R
Govt. Medical College, Thiruvananthapuram.

The incidence and prevalence of stroke has increased following the increase of lifestyle diseases¹ in India and Abroad. The advances in acute care following stroke has significantly improved the chances of survival and reduced the amount of residual weakness in stroke survivors² but this improvement in acute care is limited to people with access to higher centers. Therefore, the disability burden is still high in the general population and rural areas.

There are molecular, circuit and behavioral changes which occur following the onset of Stroke in a patient. Neuromodulation plays a major role in improvement of function and quality of life of the stroke survivors³. It is through this mechanism that Brain plasticity is induced which helps in Recovery of function following stroke. Neuroplasticity occurs mainly in the periinfarct area which may result in new areas taking up function of the lost areas or by recovery of function⁴. Neuromodulation can be induced with the help of pharmaceuticals and stimulation techniques. The ways in which the brain stimulation techniques modulate the brain are not fully understood but they have shown potential in promoting the regeneration of neural connection and plasticity processes⁶.

Donald Hebb, a Neuropsychologist proposed⁷ that “Neurons that fire together, wire together” and it forms the theoretical foundation that homosynaptic and heterosynaptic activities facilitate synaptic formation and consolidation during motor rehabilitation. Neuroplasticity could be increased through Rehabilitation strategies⁸ such as Task Oriented Training (TOT) but it cannot completely alleviate motor impairment and restore function. In this aspect Electrical stimulation provides a more targeted intervention to damaged motor pathways and helps in better functional recovery⁹.

Electrical Stimulation can be given at different levels of the Neuromotor control system. The stimulation targets include motor cortex, peripheral extremities, cerebellum, deep brain, vagus nerve and other related areas. Of these Noninvasive Brain stimulation (NIBS)⁹ and Peripheral electrical stimulation protocols^{10, 11} has been used extensively.

Deformity Corrective Surgeries
- Recent Updates in Surgical Techniques
Dr Pabitra Kumar Sahoo
Asso.Prof & HOD (PMR), SVNIRTAR, Cuttack

Deformity corrective surgeries are part of a comprehensive rehabilitation program for persons with disabilities with locomotor deformities. Out of 21 types of disabilities recognized by the RPWD Act 2016, more than 12 types of disabilities present with some form of musculoskeletal deformities. In the current scenario of health burden, they remain neglected and unnoticed by medical fraternities. They need to knock on the doors of different specialties for complications from a single disability. Deformity corrective surgeries are an integral part of the rehabilitation surgery program. A physiatrist trained in rehabilitation surgery can treat locomotor disabilities more comprehensively.

Deformity corrective surgeries can be divided into two groups.

- i. Corrective surgeries
- ii. Reconstructive surgeries

Corrective Surgeries: Restores normal anatomy of the limb and enables the patient to use the operated limb with or without assistance. The most common corrective surgeries done in clinical practice are Genu valgum, varum, Cubitus varus / valgus, Knee Flexion Deformity, equinus, equinovarus, valgus, LLD, congenital deformities, etc. The Current technique of rehabilitation surgery includes maximum deformity correction with minimally invasive surgery. Results are always worth rewarding.

Reconstructive surgeries: The surgeries range from classical soft tissue release to most advanced methods like computer-assisted six-axis deformity correction systems. In some neurological diseases, tendon transfers are done to compensate for the loss of one function of the joint. Deformity correction is an important prerequisite for that procedure. Flail joints can be stabilized by arthrodesis so that distal functions can be achieved by tendon transfer. Ambulation and activities of daily living can be optimized in case of CP and other chronic neurological conditions by the different reconstructive procedures.

The surgical procedures as such are not very technically demanding but the assessment, decision-making, and selection of a procedure for the given patient make this field challenging. The outcomes of a properly executed procedure are encouraging.

tetraplegics in developing countries to pursue effective rehabilitation and improved quality of life.

Robot assisted Gait Rehab in Stroke survivors**Dr Amit Ramesh Dhumale****Director****Rehabilitation Services****Jupiter Hospital, (Thane, Indore, Pune)**

The PM&R physician, aims to reducing spasticity & improve the voluntary control in stroke survivors. Treatment short-term goals are modified independence in all ADL.

While a lot of emphasis has been put on spasticity reduction there was a lacune in terms of facilitation of voluntary control. The advent of robotic rehabilitation & advanced rehab technology has been a game changer as it incorporates task specific training concepts which have proven to result in better neuroplasticity & enhanced voluntary control in stroke survivors.

This presentation will focus on functional outcome measures specific to stroke, principals of advanced rehab technology & its implementation as a part of inter-disciplinary stroke rehab program. Devices in discussion will include but not limited to - BWS lower-limb robotic gait trainers (Lokostation&Lexo), Sensor based devices (Tymo + HP Cosmos), Mechanical devices like dynamic stair trainer , sarastedy, sara plus. Indications, contraindications, clinical implications, step by step goal oriented approach, monitoring outcomes of balance, gait & fall risk assessment.

PMR Physician should consider this clinical privilege & undergo training so as to improve their skill set in order to benefit the patient & the PM&R fraternity.

Recent updates in acute rehab management of SCI**Dr Navin B Prakash****MBBS, MD [PMR], DNB****Assistant professor, Neurological Rehabilitation, NIMHANS**

A standard bedside assessment is a bedrock prior to rehabilitation planning, the new revisions in the International Standards for Neurological Classification of Spinal Cord Injury must be implemented in all centers for spinal cord injury (SCI) rehabilitation. The use of biomarkers and functional MRI in neuroimaging is increasing, prognostication and treatment planning may be facilitated with these investigations.

Similar to the Golden hour in case of Myocardial Infarction, time to needle (door) in stroke, “time is spine” is a new emerging concept in SCI management. Advances in surgical interventions include the use of biofilms, nanoparticles, neural grafts, stem cells and three dimensional polymer scaffolds. Though the role of these interventions in neurological recovery is not fully established, advances in biotechnology, bio-engineering and understanding of patho-physiology is leading to research involving newer methods to facilitate recovery in SCI. The role of non-steroidal anti-inflammatory drugs to reduce secondary damage following SCI is under investigation. There is increasing evidence for the use of immunotherapy in non-traumatic SCI. Interventions to reduce bone loss and cardio-pulmonary complications following acute SCI are being studied.

Research has established the presence of independent spinal movement pattern generators, neuromodulation of these centers may aid in functional gains in locomotion of individuals with SCI. Neuromodulation can be done either through an invasive method or non-invasive method involving the placement of electrodes trans-cutaneously over these regions and then stimulating the centers.

The concept of repetitive task training facilitating sensory-motor recovery has been studied in stroke and this has been expanded to SCI. The use of robots to facilitate upper and lower extremity neurological and functional recovery is a part of both research and clinical use in individuals with SCI. Technological advances has resulted in smaller and lighter components in these robots, with further research the use of these devices in community is likely to increase. Collaboration of networks using these devices has begun and this will lead to data generation and formulation of new guidelines in this area. A multi-disciplinary approach utilizing various advances is likely to benefit individuals with SCI.

“Phrenic Nerve Stimulation in SCI”

Dr Mohit Kataruka

Respiratory failure and chronic ventilator dependence in tetraplegics following cervical injuries located high on the spine (C1–C3) constitute significant challenges in the rehabilitation and increasing financial burden. A high spinal cord injury like unstable fracture at the C1–C2 level with cord compression was managed by posterior stabilization and decompression and no rehabilitation was possible due to ventilation dependency.

To achieve successful PNP, it is imperative that the phrenic motoneurons and axons are viable and therefore amenable to activation via electrical stimulation techniques.

Patients considering PNP should be highly motivated to improve their functional capacity and degree of independence. Optimal candidates and their caregivers anticipate the benefits of improved mobility and speech with the ultimate goals of greater social interaction, greater participation in rehabilitation programs and possibly improving their occupational potential.

It is critically important that the integrity of phrenic nerve function to be assessed to evaluate potential candidates for PNP. This can be accomplished by measurements of phrenic nerve conduction times.

Electrical stimulation of the phrenic nerves results in diaphragm contraction causing a fall in intrathoracic pressure and the development of inspiratory airflow. The diaphragm relaxes with cessation of stimulation, resulting in passive exhalation.

After implantation gradual weaning from ventilator was done. Phrenic nerve pacing is initiated and maintained until either reductions in inspired volume or oxygen saturation are observed or the patient experiences respiratory discomfort.

Each breath is generated by the delivery of a train of electrical pulses (typically 20 Hz or less) at pre-set amplitude. The size of inspired volumes can be adjusted primarily by changes in frequency. Assuming adequate inspired volume generation, the application of cyclic phrenic nerve stimulation, 8–14 times/min, results in adequate levels of ventilation.

Phrenic nerve pacing systems do not have alarms signalling inadequate ventilation. Tetraplegics, however, can adequately detect small changes in tidal volume and will alert caregivers in the event of changes in ventilation.

Battery failure is the most common cause of mechanical failure of the PNP systems. With regular battery changes, however, this complication is completely avoidable. Most systems also have low battery alarms. The external antenna wires may break, particularly at stress points, either near the connection to the transmitter or near their attachment to the chest wall.

The problems with PNP is that the electrical signals which activate the diaphragm occur independent of the spontaneous generation of electrical signals from the respiratory centers in the medulla. Consequently, upper airway muscle activation can occur independent of diaphragm activation resulting in upper airway obstruction. Moreover, ventilation cannot increase in response to changes in metabolic demand, and the respiratory pattern cannot change in response to requirements for optimal speech.

Implantation of phrenic nerve stimulator electrodes bilaterally for indirect diaphragm pacing that allow for weaning from mechanical ventilation and spontaneous ventilator-free breathing and subsequently facilitated post-tetraplegia rehabilitation. Diaphragm pacing with phrenic nerve stimulation may be a way forward for ventilator-dependent

Recent updates in tendon transfer surgery**Dr Jagannatha Sahoo****Additional Professor and head****Department of PMR****AIIMS, Bhubaneswar****Background**

Tendon transfer in the extremity represents a powerful tool in the armamentarium of a reconstructive surgeon in the setting of irreparable nerve injury or the anatomic loss of key portions of the muscle-tendon unit. The concept uses the redundancy/expendability of tendons by utilising a nonessential tendon to restore the function of a lost or nonfunctional muscle-tendon unit. This presentation is meant to familiarise with some technical tips, which may facilitate a successful tendon transfer.

Learning Objectives

(1) Familiarise with some aspects of tendon transfer history. (2) Identify principles of tendon transfers. (3) Identify important preoperative considerations. (4) Understand the physiology of the muscle-tendon unit. (5) Identify strategies for setting tension during a tendon transfer and rehabilitation strategies.

Design

This study was designed to review the relevant current literature and provide an expert opinion.

Conclusions

Tendon transfers have evolved to correct neurologic and musculotendinous deficits in a variety of patients affected by trauma, peripheral nerve palsies, cerebral palsy, polio and stroke.

Keywords: Extensor tendons, Flexor tendons, Tendon reconstruction, Tendon transfer

Recent advances in platelet-rich plasma (PRP) therapy in osteoarthritis of the knee

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The purpose of this study was to compare the clinical effectiveness of platelet-rich plasma (PRP) injection versus other intra-articular injections in patients with knee osteoarthritis. On August 23, 2022, we conducted a thorough search of electronic databases such as PubMed, Embase, Web of Science, and the Cochrane Library to discover relevant publications published in English. The Visual Analog Scale (VAS) and Western Ontario and McMaster Universities Arthritis Index (WOMAC) scores (WOMAC pain, function, stiffness, and total scores) were used to assess the effectiveness of treatment for knee osteoarthritis (KOA). It was found that this PRP therapy is helpful for the treatment of knee osteoarthritis with other interventions.

Latest development in lower limb prosthetics

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Explosion of knowledge in the field of biomaterials, biomechanics has changed the prosthetic technology in the direction of providing amputee gait, which closely resembles normal human gait.

Availability of computer aided design (CAD) and computer aided manufacturing (CAM) assisted by highly sophisticated computerized gait labs have made it more accurate even in bilateral amputees. Silicone liner, energy storing and release foot, shock absorbing pylon, positional rotators, torque absorbers microprocessor knees, four bar linkage knee and hip joints, C-legs has improved physical performance of average amputee as well as amputee athletes.

Selection of components has to be done on the basis of overall health of amputee, level of amputation, cultural requirements, habits and the demands raised by the amputees as well as his economic status. Practice of prosthesis is hands on medical art coupled with science.

Prosthetic practice is not simply the replacement of mechanical device; it is restoration of anatomical, functional and psychological need, to send the patient back in the main stream of life, to become productive member of society. Prosthesis which maximizes stability and minimizes possibility of falls should be the goal. The best results are usually achieved by surgeons who have some basic knowledge of prosthetics and amputee rehabilitation. As in any medical specialty there are limits to surgery and prosthetics. It should be kept in mind while dealing with amputee rehabilitation.

In our country very few amputations are done by surgeons who have very basic knowledge of amputee rehabilitation. General surgeons, orthopedic surgeons, plastic surgeons, pediatric surgeons and vascular surgeons, everyone is involved in performing amputation surgery with the aim of getting rid of diseased part of the limb not with the aim of producing functional end organ “the stump” fit for prosthetic fitting.

Post operative care designed to produce mature stump is also not followed. Complicated stump is a very common problem.

CURRENT AMBULATORY STATUS OF PATIENTS WITH ACUTE LIMB ISCHAEMIA IN COVID

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Introduction: Aim of our study is to determine the current ambulatory status of patients with acute limb ischaemia in COVID.

Materials and Method: Single-centre, retrospective cohort study, during the time period April-November 2021

Results: During the time period, 7731 patients were admitted in which 3841(49.6%) patients belong to catC. Acute limb ischaemia is noted among 18(0.47%) patients belonging to catC. Among them, 17 (94.5%) males and 1(15.5%) female. Mean age was 47yrs. 1 patient was K4 ambulant, 16 patients were K3 ambulant and 1 patient K2 ambulant prior to the onset of limb ischaemia. Tibial artery is involved in 48.1%, distal popliteal artery in 38.4%, common iliac in 2.1%. Thrombectomy performed in 1 case(previously K4 ambulant), it was successful, K3 ambulant after the procedure.

13 were K3 ambulant prior to the onset of symptoms, among them 8 underwent (L) transtibial amputation, 2 cases underwent (R) transtibial amputation -K2 ambulant now. 1 patient underwent (R) transfemoral amputation and K1 ambulant now. Bilateral symes amputation done in 1 patient, was K0 after the procedure, died 1 month back due to mesenteric ischaemia and pulmonary complications.

Discussion: COVID-19 is a hypercoagulable state. Acute limb ischaemia is the presenting complaint in 1/3rd of the cases. 3 (L) transtibial amputees received transtibial prosthesis and K2 ambulant, 1 (R) transtibial amputee also received transtibial prosthesis and K2 ambulant now. 3 (L) transtibial amputees are wheelchair ambulant and 2 are ambulant with walker now. 1 (R) transtibial amputee is ambulant with axillary crutches. 1 case of transfemoral (R) amputee is ambulant with axillary crutches (K1).

Conclusion: Covid can present as acute limb ischaemia with poor prognosis. 13 K3 ambulant cases became K2 ambulant, 1 K3 became K1, 1 K4 became K3 and 1 K2 became K0, died due to associated pulmonary complication and mesenteric ischaemia.

Limberg Flap- A simplified procedure for management of Sacral Pressure Sore

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Abstract

Background:

Sacral pressure ulcers are associated with high morbidity and, in some cases, result in mortality from severe sepsis. Pressure ulcers in spinal cord injury represent a challenging problem for patients, their caregivers, and their physicians. Local flaps are frequently used for reconstruction of stage III and IV pressure ulcers. An ideal flap should be simple to design, have a reliable vascular supply and minimal donor site morbidity. Our study evaluates the use of a Limberg flap, a type of fascio-cutaneous to reconstruct the sacral pressure ulcer. The Surgical Procedure is simple and reproducible.

Methods: We present our experience using the Limberg flap technique for treating sacral pressure sores. Seven paraplegic patients (7 males) were treated surgically from August 2021 till August 2022. Preoperatively Flap design was marked, excision of fibrotic tissues was done and flap coverage was achieved depending upon the size of defect. After flap coverage, two out of seven pressure sores were closed over a suction drain.

Results: Complete primary healing was observed in all seven patients. One patient had secondary surgical site infection managed by debridement and secondary closure, one patient had surgical wound dehiscence which was closed with secondary suture. The average hospital stay was 3 weeks.

Conclusions:

The Limberg flap which was originally described by Alexander A. Limberg, for closure of maxilla facial defect can be implemented for pressure sore management. It is a simple and reliable alternative surgical technique utilizing local tissue in treating sacral pressure sore.

Comparison Of Ultrasound Guided Pulsed Radiofrequency Ablation And Bupivacaine Block Of Suprascapular Nerve Followed By Manipulation In Reduction Of Pain And Functional Disability In Adhesive Capsulitis Of Shoulder: A Randomized Controlled Trial

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Introduction: Adhesive capsulitis (AC) is an idiopathic, Painful, regular restriction of all shoulder movements with normal radiographs and self limiting. General population incidence is approximately 2% -5%.It can have a variable duration but usually lasting between 1-3 years without intervention thereby negatively affecting patient's activities of daily living (ADL) and reduces the quality of life

Methods: The study conducted at Department of Physical Medicine and Rehabilitation, Regional Institute of Medical Sciences, Imphal where 48 patients with AC were included in the study. Patients were randomized into the following 2 groups: the intervention group containing patients who received ultrasound guided radiofrequency ablation of suprascapular nerve and the control group containing patients who received ultrasound guided bupivacaine block of suprascapular nerve. All outcome measurements including shoulder pain and disability index, and passive range of motion (PROM) were measured at 1, 4 and 12 weeks after treatment.

Results: The intervention group had a significant pain relief with reduction of SPADI at 1 week and subsequent follow up at 4 and 12 weeks than the control group ($P < 0.001$). All measured variables in the intervention group and most variables in the control group showed significant improvement from the baseline ($P < 0.05$). There were no serious adverse effects or complications in either group.

Conclusions: This study indicates that the application of Pulse radiofrequency ablation of the Suprascapular nerve using a ultrasound guided technique provided better and faster relief from pain, reduced disability, and improved passive range of motion(PROM) when compared with ultrasound guided bupivacaine block of suprascapular nerve in patients with AC, an effect continue for at least 12 weeks.

A cross sectional study of prevalence and associated factors of sports injuries among the fast bowlers playing Jaipur club cricket

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Abstract

Background- We conducted this study with the objective to calculate one year prevalence of sports injury and its associated factors among cricket fast bowlers playing Jaipur club cricket.

Methods- We conducted this cross-sectional, observational study in PMR department of SMS Medical College Jaipur over the period of one year from June 2021 to May 2022. We enrolled 68 male fast cricket bowlers in this study. We quantified pelvic obliquity, pelvic tilt and rotation using G-sensor and G-walk software. Collected data was entered in excel spreadsheet and analysed using SPSS.

Result- The mean age of participants was 19.03 ± 2.61 years. Total 52 (76.5%) participants had sports injuries in last one year, out of them 34 (50.0%) back related, 12 (17.6%) Shoulder Related, 8 (11.8%) had knee related, 6 (8.8%) Ankle related, 6 (8.8%) Groin/Thigh Related, 5 (7.4%) Hand Related, 2 (2.9%) Ligament and 5 (7.4%) had other injuries in last one year. The mean Pelvic Tilt- Minimum was -2.52 ± 1.65 , Maximum was 2.17 ± 1.38 and Range was 4.70 ± 2.94 . The mean Pelvic Obliquity- Minimum was -2.05 ± 1.04 , Maximum was 2.42 ± 1.03 and Range was 4.47 ± 1.87 . The mean Rotation - Minimum was -3.43 ± 2.00 , Maximum was 4.17 ± 1.95 and Range was 7.60 ± 3.67 .

Conclusion- These wearable gadgets are important in biomechanical assessments to quantify faulty playing techniques and this could lead to appropriate intervention strategies and ultimately to prolonged cricket careers and a reduced incidence of injuries.

A cross sectional study to assess dual task interference in postural control in people with lower limb amputation

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Introduction-

Aim: To assess and compare dual task interference (DTI) in static and dynamic postural balance while standing in people with lower limb amputation (LLA)

Objective: To assess DTI in static and dynamic postural balance using Biodex balance system (BBS) and cognitive task using serial seven subtraction test while standing in people with LLA and able-bodied individuals and compare DTI between them.

Materials and Method-

Setting: Tertiary care rehabilitation centre

Study design: Cross-sectional observational

Study population: 15 people with unilateral LLA (8 transtibial; 6 transfemoral), 15 age and gender matched controls

Data collection: Outcome measures from BBS: 1. Anterior-posterior stability index (APSI) 2. Medial-lateral stability index (MLSI) 3. Overall stability index (OSI) and serial 7 subtraction test: Correct response rate (CRR).

Method of analysis- Quantitative variables compared using unpaired t-test and Wilcoxon rank-sum test. Spearman's correlation test to establish correlation between DTI on cognition and postural control. STATA 15.0 statistical software was used for data analysis.

Results- DTI on static postural control was significantly more ($p < 0.05$) in amputees as compared to controls (for APSI, OSI). No significant difference was observed for DTI on dynamic postural control and cognition. For people with LLA, a significant ($p < 0.05$) negative correlation between DTI on cognition and static postural control (APSI) was observed.

Conclusion- These results suggest that static postural balance (in sagittal plane) deteriorates when performing a cognitive task in amputees as compared to able-bodied individuals. In addition, the improvement in cognitive task comes at the cost of decline in static postural control.

A prospective study of incidence and predictors of pressure ulcer in acute SCI patients during acute care and inpatient rehabilitation

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Introduction : Pressure ulcer is one of the major secondary complication of spinal cord injury and negatively affects the quality of life and resources utilization. This study is designed to determine the incidence of pressure ulcer in acute SCI patients during acute care and inpatient rehabilitation on the basis of demographic data, level and severity of SCI (ASIA grade), comorbid condition like diabetes, pneumonia, UTI, anemia, hypoproteinemia and hypoalbuminemia.

Methods : The study was carried out at department of physical medicine and rehabilitation, SMS Medical College and associated hospital, Jaipur. Adults with acute traumatic spinal cord injury (n=60) were recruited within 24–72h of admission to the hospital. The enrolled patient demographic data, clinical and blood report data, ASIA impairment scale used to analyse pressure ulcer outcome.

Results: Out of enrolled 60 patients, 41.67% (25 patients) had pressure ulcer on admission and at 6 weeks only 20% (12 patients) has pressure ulcer. Univariate logistic regression analyses revealed significant association of pressure ulcer incidence for those with Complete spinal cord injury (ASIA A) (P=0.002), diabetes mellitus (P=0.011), anemia (Hb<13 gm/dl male, Hb<12 g/dl female) (P=0.002), hypoproteinemia (total protein< 6.5 gm/dl) (P=0.001) and hypoalbuminemia (s.albumin<3.2 gm/dl) (P=0.0005).

Conclusion: Individual who had complete spinal cord injury were at high risk to develop pressure ulcers. Diabetes mellitus, anemia, hypoproteinemia, hypoalbuminemia was found to be associated with the formation of pressure ulcers.

oracic rhythm with increased contribution from scapular motion in overall humeral elevation.

Study of injuries, disability and quality of life in post RTA population.

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Introduction: As per last census (2011) locomotor disability constitute 20.3% among all disabilities, most common cause is RTA. The severity of disability for the types of injuries and the difficulties in assessing unquantifiable injuries known through this study.

Aim: To assess the impact of disability, quality of life by SF12 in post RTA population and to know the type of injuries.

Material & Method: Study group include 202 patients recovered from RTA injuries, all were assessed as per GOI guidelines and SF12 quality life assessment questionnaires. Patients were divided in to group 1 (142 patients) and group 2 (60 patients). Patients with residual impairment included in group 1 and others in group 2, the mode of injury, types of injuries all documented. Comparison were made between two groups about mode of injury, types of injuries, disability and SF12 (physical and mental score) and the data was analysed.

Results: A statistically significant difference was observed between the groups in terms of injuries, most frequent fractures. The degree of disability in group 1 was mean 42% and group 2 is <10%. SF 12 with physical and mental score in group 1 is significantly lower when compared to group 2 patients.

Conclusion: RTA contributes severe disability and SF 12 is beneficial in assessing QOF. Patients with facial, dental and visceral organ injuries which has significant reduction in SF12 score. The current guidelines does not quantify the percentage of disability for these injuries.

Prevalence and determinants of anemia among spinal cord injured in a tertiary care hospital in southern India.

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INTRODUCTION : Anemia is a major public health problem in India. Approximately 27% of world's population reported to have anemia in 2013. Developing countries account for more than 89% of the burden. However, anemia is an under-recognized morbidity amongst spinal cord injured (SCI) and there are no studies from India regarding the prevalence of anemia. This study aims to report the prevalence and identify the determinants of anemia in SCI individuals

MATERIALS AND METHOD Setting : Patients admitted for in-patient rehabilitation
Location for the study: Department of Physical Medicine and Rehabilitation (PMR) in a tertiary care hospital in South India
Study Design: Retrospective observational study
Study population: Men and women with SCI resulting from trauma, infection or tumor, between the ages 18 - 80 years
Data collection: Discharge summaries of SCI patients admitted under PMR from 2020 till 2021 will be reviewed.
Method of analysis: All parameters were summarized by frequency and percentage and descriptive statistics such as mean (SD). T-test will be applied to explore determinants of anemia. P-value less than 0.05 is considered as statistical significance.

RESULTS: One hundred SCI patients were enrolled. There were 89 males. The mean age was 38.39 years (SD=14.96). The mean Hemoglobin of the population was 12.14 (SD=2.02). The mean hemoglobin values for males were 12.22 (SD= 2.07) and females was 11.49 (SD=1.33). The prevalence of anaemia in males was 21.3% and females was 63.63%. The overall prevalence of anaemia in the population was 45%

ONCLUSION : The study adds data on prevalence of anemia in SCI population. Anemia in SCI can affect overall health and activity tolerance. It adds to the cardiovascular burden adding to the risk for metabolic diseases. Appropriate treatment of anemia adds to comprehensive care of SCI patients.

Comparison Of Intra-articular Steroid Injection And Sodium Hyaluronate Injection In The Treatment Of Peri-arthritis Shoulder: A Double Blind Study

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INTRODUCTION

This prospective study was done to evaluate and compare effectiveness of intra-articular Triamcinolone Acetonide injection with intra-articular sodium hyaluronate injection. The primary outcome measure was, the changes in the VAS Score and secondary outcome measures included changes in Shoulder Pain and Disability Index (SPADI) scores, Range of motion and Quality of life (QOL) at 3 weeks, 6 weeks and 12 weeks post injection.

MATERIALS AND METHODS

Fifty subjects were randomly assigned to two groups, one group was given Inj. Triamcinolone Acetonide 40mg (group 1) and the other was given Inj. sodium hyaluronate 20mg (group2) intra-articularly. An evaluation of VAS score, SPADI score, Range of motion and Quality of life was done at 3 weeks, 6 weeks, and 12 weeks after starting the treatment and was analysed using SPSS software.

RESULTS

The improvement in the VAS score, SPADI Score, ROM ranges (Abduction, flexion, External Rotation) were significantly higher in the steroid group than with HA group at 3 weeks and 6 weeks. At 12 weeks HA showed significant improvement than steroids in all the above-mentioned outcome measures.

CONCLUSION

Both the groups showed significant improvement with respect to time with VAS Score, Shoulder pain and disability index, Range of motion and physical component of QOL.

Effectiveness Of Fluoroscopy Guided Platelet Rich Plasma Injection At Sacroiliac Joint In Patients With Ankylosing Spondylitis.

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Introduction:

Aim & Objective: To assess the effect of intra-articular sacroiliac joint Platelet Rich Plasma (PRP) injection in patients with Ankylosing Spondylitis (AS).

Material & Methods:

Study area: Outpatient Department of NILD in Kolkata, 700090.

Study population: The patients enrolled in outpatient setting in NILD with age group between 18 years to 45 years, diagnosed with AS by Modified New York Criteria and SIJ tenderness.

Study design and sampling strategy: This is a prospective interventional study, done for 18 months. A total 20 patients with SIJ pain in AS fulfilling the inclusion criteria were selected for the study. They received intra-articular SIJ PRP injection. All the participants were evaluated by NPRS for SIJ pain and ODI, at baseline and then at

2nd, 4th, 6th week and 3 months. The patient's data was maintained in Microsoft excel and analyzed with the help of SPSS, Microsoft excel, and epi-info.

Results: At 3 months, 17 out of 20 (85%) patients had >50% reduction in pain at SIJ based on NPRS and 16 out of 20 patients (80%) improved to minimal disability from severe on ODI scoring scale at 3 months from baseline.

Conclusion: Therefore, we conclude that intra-articular SIJ PRP injection is effective in reducing SIJ pain in AS patients.

A comparative study of the scapulohumeral rhythm in the affected and normal shoulder of adhesive capsulitis patients

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Background: Normal functioning of the shoulder requires flawless coordination between the components of shoulder girdle namely the AC joint, GH joint, AC joint and the scapulothoracic joint. Disturbances of scapulohumeral rhythm are associated with increased risk of rotator cuff injuries and vice versa. Although there is plenty literature on disturbed scapulohumeral rhythm in rotator cuff pathologies, it's alteration in periartthritis shoulder is less studied.

Objectives: Primary objective was to measure and compare the SHR of normal and pathologic shoulders using Dynamic Digital Radiography (DDR) in patients suffering from PA. Secondary objective was to assess the effect of pain on the scapulohumeral rhythm.

Methodology: A total 32 subjects (15 males and 17 females) between ages of 50-70 years with primary adhesive capsulitis were clinically examined for the shoulder range of motions. Pain severity was measured on the numerical rating scale at 0, 30, 60, 90 and 120 degrees. Scapulohumeral rhythm of affected and unaffected shoulders was assessed under fluoroscopic guidance in the scapular plane at 0, 30, 60, 90 and 120 degrees.

Results: Significant difference was seen in glenohumeral: scapulothoracic ratio at 30 degrees, 60 degrees, 90 degrees between affected and unaffected sides (p value <.05). However no significant difference was observed at 0 and 120 degrees abduction. Significant negative correlation was seen between NRS and active abduction at 90 degrees. Correlation between NRS and active abduction at 0, 30, 60 and 120 degrees was not significant. Correlation between NRS and Passive abduction at 0, 30, 60, 90 and 120 degrees was also not significant.

Conclusions: Adhesive capsulitis is associated with significant alterations in scapulothoracic rhythm with increased contribution from scapular motion in overall humeral elevation.

Autologous Platelet Rich Plasma In Early Osteoarthritis Knee: A Systematic Review And Metanalysis

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Introduction: Due to paucity of evidence regarding which treatment is beneficial for early Osteoarthritis (OA)Knee, this study aims to determine whether autologous platelet rich plasma (PRP) will alleviate pain of early Osteoarthritis (OA) knee and improve activities of daily learning.

Methods:A systematic review of randomized and non-randomized controlled trials and prospective/retrospective studies were done using search engines PubMed/Medline, PubMed Central, Embase, Google Scholar and Scopus by team of reviewers at AIIMS Rishikesh.Cochrane Risk of Bias tool was used to assess the methodological quality of the selected studies. Metanalysis was done using Rev Man. A random effects model was used to estimate the pooled data, and heterogeneity was assessed using I2 statistic. Publication bias was assessed by Eggers's test. Grade analysis was used to determine the quality of evidence. Review was registered in PROSPERO (CRD42022314244).

Results: Out of 28 studies (pooled sample of 2612 participants) eight studies were of high, eighteen of moderate, and two were of low quality. Overall, there was a significant improvement in pain in the patients' group (with early OA Knee) receiving PRP as compared to control group with a relative risk of -6.20 at 95% CI= -7.57, -4.83. The overall heterogeneity for VAS was substantial with I2 =68% and statistically significant with p=0.02. All the studies in the forest plot have reported similar effect size favouring PRP for improvement in pain as well as activities of daily learning.

Conclusion : Autologous PRP was more effective if administered at early stages of Osteoarthritis Knee.

Unusual Clinical Finding Of Both Lmn And Umn Signs In A Single Patient With Traumatic Spinal Cord Injury – A Case Report

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INTRODUCTION:

Spinal cord injury (SCI) is a rehabilitation challenge in view of its complexity and variability in presentation. Here we report a rare presentation of both UMN & LMN features in a single case

CASE PRESENTATION:

A 24 yrs. old female with 2 year old traumatic SCI presented to us for rehabilitation with vertebral level T12, neurological level T8 as AIS grade A. managed surgically. Imaging revealed old fracture T12 with broken implant on T11. She reported history of fall while transfer activity on bed two months after SCI and suffered sub trochanteric fracture right femur managed by open reduction and internal fixation. Clinical examination revealed UMN signs in Left lower limb with increased tone, spasticity and exaggerated deep tendon reflexes, ankle clonus. However, on right side LMN signs were seen as decreased tone and absent ankle reflex. NCV of B/L lower limbs suggestive of Right peroneal neuropathy. Management was started with standard rehabilitation protocol with antispastic medications, bracing, positioning and exercise programme.

DISCUSSION:

This case highlights the mixed UMN and LMN picture in a single case.UMN features are well explained by the site of lesion of SCI. the LMN signs could be present due to femur fracture sequelae or fibrotic bands or HO causing compressive neuropathy or root avulsion sustained during injury

CONCLUSION

Very few cases of mixed case of both LMN and UMN findings have been reported globally. Reporting such cases help to avoid complications impeding the rehabilitation in SCI patients.

OUTCOME OF PULMONARY REHABILITATION IN STABLE COPD PATIENT

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Objective of present study:

- i) To assess the effect of pulmonary rehabilitation on quality of life of COPD patients
- ii) To assess change in dyspnea by MRC scale
- iii) To assess six –minute- walk distance (6MWD) test

Methodology

- a) Study Design : Institution based prospective, comparative study.
 Patients will be divided into two groups as follow:
 Group I (Study group)-Thirty five patients of COPD will be given PR along with standard treatment.
 Group 2 (Control group) - Thirty five patients of COPD will be given standard treatment without PR.
- b) Study setting : Department of Physical Medicine & Rehabilitation ,IPGME&R-SSKM hospital, Kolkata and Department of Pulmonary Medicine at IPGME&R-SSKM hospital.
- c) **Place of study:** Dept. of Physical Medicine & Rehabilitation , IPGME&R-SSKM HOSPITAL, Kolkata
- d) **Period of Study:**18months
- e) **Study population:** Patients attending OPD of Dept. of Physical Medicine & Rehabilitation
- f) **Sample size:** Considering 95% confidence level and 80% power, sample size was calculated using the OpenEpi software, as 31 per group. Considering a 10% non-response rate final sample size was calculated as 35 for each group.

 35 cases of COPD given pulmonary rehabilitation and standard treatment
- g) **Control :**35 cases of COPD given standard treatment without pulmonary rehabilitation
- h) **Inclusion criteria:**
 1. Patients of COPD presenting with modified medical research council (mMRC)

Abstract for Poster Presentation

breathlessness (mMRC) 2-3 score

2. Patients who did not receive steroid in last 6 months

Exclusion Criteria:

1. Patients who got/received steroids in last 6 months
2. Patients with unstable cardiovascular disease
3. Severe arthritis patient
4. Patients with severe peripheral vascular disease
5. Patients with uncontrolled hypertension
6. Neuromuscular conditions that would interfere with exercise test
7. Psychiatric and cognitive impairment
8. Unable to follow instructions.
9. Not willing to participate

i) **Data Collection and interpretation:**

1. General information: Age, gender, occupation, past medical history
2. Clinical examination

3. Specific tests :

i) Six minute walk distance test (6 MWD)

ii) To assess dyspnea by mMRC scale

iii) Physical Quality of life index

j) **Laboratory investigations:** Routine investigations

k) Outcome definition and parameters to be studied:

1. Six minute walking test (6 MWD)
2. To assess dyspnea by mMRC scale
3. Physical Quality of life index (PQLI)

Study tools:

1. Measuring tape
2. Sphygmomanometer
3. Pulse oximeter
4. ECG machine
5. Treadmill
6. Spirometry
7. Dumbbells
8. Static bicycle

Expected outcome: PR can help COPD patients

A Preliminary Report Of The Study Estimating Incidence Of Deep Vein Thrombosis In Spinal Cord Injury Patients On Mechanical Prophylaxis

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Introduction- Deep Vein Thrombosis (DVT) is common complication of Spinal Cord Injury (SCI) with incidence ranging from 6% to 75%. Prolonged immobilization is known risk for DVT after trauma. The aim and objective of this study are to determine incidence of DVT in Acute SCI bedridden patients on mechanical prophylaxis with Elastic Compression Stockings (ECS).

Materials and Method- In this prospective study 47 patients were recruited. They were provided mechanical prophylaxis with ECS and clinically examined and investigated by FDP, D-Dimer and Colour Doppler Ultra Sonography (USG) in week 1, in between week 2-3, in between week 5-6 to find out occurrence of DVT.

Result- Out of the recruited 47 patients ,09 patients (19.1%) were found to have DVT at week-1 to week-6 after injury. Baseline variables were comparable in patients with or without DVT. Occurrence of DVT was not found to be associated with neurological level or ASIA impairment scale grades. Thigh and Calf girth difference were significant at week-1 and week 2-3. Local increase in temperature was found to be significant at week-1, week 2-3, week 5-6. Presence of redness was found significant at week 2-3 and week 5-6.

Conclusion- Incidence of DVT in acute SCI patients on mechanical prophylaxis was thus found to be 19.1% which shows that mechanical prophylaxis with ECS was able to reduce the occurrence of DVT in Acute SCI.

Comparison Of Ultrasound Guided Platelet Rich Plasma Injection And Extracorporeal Shockwave Therapy For Treatment Of Haglund's Syndrome: A Randomized Controlled Trial

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Introduction: Pain in the posterior aspect of heel with a deformity is a fairly common condition which often needs physician visits. Haglund's syndrome is one such in which patient has retrocalcaneal bursitis, calcaneal tendon bursitis, and inflammation of the calcaneal tendon, a bony prominence at the posterosuperior part of the calcaneal tuberosity. The study aims to compare the effectiveness of USG guided PRP injection and ESWT for treatment.

Materials and Method: A randomised controlled trial done among patients of heel pain, who visited Department of Physical Medicine and Rehabilitation, RIMS, Imphal during August 2019-June 2022. Patients having radiological as well as significant clinical findings were included in the study and they are randomised into PRP group (n=11) and ESWT group (n=11). VAS score and Foot and ankle ability measures (FAAM) ADL sub scale were used for follow up assessment at 2 weeks and 8 weeks.

Results : Baseline characteristics were not statistically significant. At end of 2 weeks mean difference of VAS (3.63 ± 1.12 , 1.81 ± 0.60) ($p=0.00$) and FAAM (12 ± 7.1 , 5.9 ± 4.01) ($p=0.02$).

At the end of 8 weeks, VAS (4.45 ± 1.03 , 3 ± 0.44) ($p=0.00$) and FAAM (21.36 ± 6 , 10.81 ± 4.678) ($p=0.00$). Statistically significant improvement between the study and control group was found in both VAS and FAAM at the all follow up.

Conclusion: Ultrasound guided PRP injection reduces pain and improves function in patients with Haglund's disease and can be considered as treatment option. Future research with larger sample size and longer follow up renders worthwhile.

The Seldom Presentation Of Equinus Deformity In A Rare Disorder – Porencephaliccyst: Case Report

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INTRODUCTION

Porencephalic cyst is an extremely rare neurological disorder characterized by cyst and cavities in central nervous system.

CASE PRESENTATION- A 7 years old male presented with left equinus deformity following hemiparesis. It began at age of 3 months when he had high grade fever with no neurological deficit and seizures. After that he showed delayed developmental milestone and squint on right side. At 9 months he developed thumb adduction and elbow flexion deformity but no deformity was noted in lower limb. When he started walking at age of 2.5 years, he developed left equinus deformity within next 6 months.

EXAMINATION–Right squint with bilateral nystagmus.

Left side – 40° equinus deformity with Spasticity present on left elbow, pronator hip adductors and hamstring, voluntary motor control upper limb – fair, hip and knee good and ankle poor. Reflexes 3+, intellectual and speech normal.

MRI – PORENCEPHALIC CYST

Corrective Surgery done for equinus deformity and Standard rehabilitation program followed.

DISCUSSION- Porencephalic cyst is congenital or acquired cavity within cerebral hemisphere. It results from many causes like maldevelopment, direct damage, inflammation or hemorrhage.

It is present at very early age of life with wide variation of clinical presentation - depending upon cyst's size and location. It may be asymptomatic or present with epilepsy, focal neurological deficits or mental retardation, microcephaly, hydrocephalus, intellectual and cognitive disabilities.

Conclusion- Cases of porencephalic cyst with unusual onset of weakness and deformity are rare and seldomly reported. Hence, porencephalic cyst should be considered among other differential diagnoses for equinus deformity in children.

Understanding The Facilitators And Barriers To Home Based Rehabilitation Adherence In Spinal Cord Injury Patients After Discharge From Rehabilitation Centre

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Introduction

Home based rehabilitation program is an important aspect of rehabilitation in countries like India where rehabilitation awareness and facilities are inadequate. This study was designed to understand facilitators and barriers to adhere with home based rehabilitation program prescribed post discharge from rehabilitation setting.

Methods:

It was a cross – sectional study. 19 patients with spinal cord injury both traumatic and non traumatic(ASIA impairment scale A-D) who were rehabilitated in our centre for minimum 2weeks were interviewed through a validated, semi –structured questionnaire. Interviews were conducted by the therapists involved in their treatment in local language through telephone.Informed consent was obtained through post.All patients who exercise for at least half hr per session for minimum 3 days a week were considered adherent to therapy.Convenient sampling was used.

Results:

Mean age was 47yrs and majority of subjects(84%) were males. 68% subjects were adherent to therapy. 84% patients reported easily understandable home program as a facilitator. Similar no. of patients reported home accessibility as another facilitator. 42% of patients found mental issues like stress, feeling worthless etc as barrier.36% felt inadequate help from caretakers at home was a barrier. 10% patients found medical problems like UTI, pressure ulcer or spasticity as barrier.

Conclusion:

Patients of different age groups, economic status and localities can face different facilitators and barriers. It is important to identify their issues in order to make home based rehabilitation more effective and improve functional outcomes.

Clinical Status, Occupation, And Environmental Barriers In Patients With Spinal Cord Injury

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Introduction

Occupational and environmental barriers are the main hindrance to community reintegration of SCI patients. This study was conducted with the aim and objective to assess clinical status, occupation, participation (Craig Handicap Assessment and Review Technique ShortForm (CHART-SF) and environmental barriers(Craig Hospital Inventory of Environmental Factors Short Form CHIEF-SF) in patients with acquired SCI.

Materials & Methodology

This cross-sectional observational study was conducted in Department of Physical Medicine & Rehabilitation, AIIMS, New Delhi wherein 40 adult patients with acquired SCI, who participated in the department's inpatient rehabilitation program(March 2016 to February 2019) were enrolled. After obtaining institute ethical approval, clinical status data were collected from discharge summaries and other data were collected using self-administered questionnaires: CHART-SF & CHIEF-SF. All the data were summarised and analysed using SPSS, version 24.0 and normality testing was done using the Kolmogorov-Smirnov test. Student-t test was used to compare the normal values, whereas the Mann-Whitney U-test was performed to compare the non-normal. To observe the association, Chi square test/ Fischer's exact test was applied. value of p less than 0.05 was considered to represent statistical significance of the study.

Results

The findings of the study indicate general decline in community re-integration in terms of physical independence, mobility, occupation and social-integration. Occupation(CHART Score -32.5) was the greatest perceived barrier while among environmental barriers, physical /structural barriers (OIS -6.92) posed the greatest challenge

Conclusion

Older age, higher NLI, lack of education significantly affected levels of community participation while physical barriers were the highest perceived environmental barrier.

A Preliminary Study To Compare Effect Of Usg Guided Versus Anatomical Landmark-based Triamcinolone Acetonide Injection In De Quervain's Tenosynovitis

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Introduction :-For the management of deQuervain's tenosynovitis an anatomical landmark- based in trasheath corticosteroid injection is an established method. An injection under USG guidance has improved accuracy but its importance in improving clinical outcomes and developing skin hypopigmentation/atrophy is not well proven yet. The aim and objective of this study are to evaluate the effectiveness of USG-guided intrasheath corticosteroid injection for de Quervain's tenosynov it is as compared to an anatomical landmark-based technique for pain, functional improvement & lesser skin hypopigmentation/atrophy.

Material and Method:-A single-blind interventional study was conducted on 43recruited patients (48wrists) with de Quervain's tenosynovitis. These patients were randomized into group-1 (USG-guided) and group-2 (anatomical landmark-based) based on injection technique. Outcome measures, visual analogue scale (VAS) for pain, patient-rated wrist evaluation (PRWE) scale composed pain (PRWE-P) &functional disability (PRWE-F), and severity of skin hypopigmentation/atrophy by modified Vancouver scar scale (mVSS), were recorded at week 0, 4 and 12.

Results:-VAS and PRWE scores improved in both groups and were not significantly different between the mat weeks 4 and 12. The symptoms recurrence rate after initial improvement was significantly more in group-2. The incidence and severity of skin hypopigmentation/atrophy and mean mVSS score were not significantly different between these groups.

Conclusion:-The study shows that in trasheath corticosteroid injection using both the injection techniq uesisequally effective in managing de Quervain's tenosynovitis, however the symptoms frequently recur in anatomical landmark-based technique, after an initial improvement.

Ultrasonography Changes Following Single Intra Articular Corticosteroid Injection In Knee Joint Osteoarthritis

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INTRODUCTION:

Ultrasonography (USG) of knee joint has been reported as one of the imaging biomarkers to assess disease progression in Osteoarthritis (OA) knee. The aim of this study is to evaluate the knee pain and USG changes following intra-articular corticosteroid (IA-CS) injection.

MATERIALS AND METHODS:

40 persons with OA knee KellgrenLawrence (KL) grade III and IV were randomized into two parallel groups (1:1). Persons allocated, in Group I (n=20) received single dose of 4 ml IA-CS injection and in Group II received 4ml 0.9% normal saline injection. The pain intensity, assessed by visual analog scale (VAS) and USG parameters of target knee joint were recorded at baseline, 2 and 5 months.

RESULTS:

The mean age and body mass index in this study were 53.17 ± 6.7 and 28.30 ± 3.19 respectively. Baseline parameters were comparable. The mean VAS score at 2 and 5 months after injection was 2.95 ± 1.23 and 2.3 ± 0.97 respectively in Group I and 5.65 ± 1.2 and 5.3 ± 1.3 respectively in Group II. At 5 months, there was significant reduction in number of persons with effusion in Group I (n=15, 67%, $P < 0.05$) as compared to Group II (n=8, 25%, $P = 0.5$). However, there were no significant differences ($P > 0.05$) between two groups in number of persons with synovial hypertrophy, meniscal protrusion and baker's cyst at 5 months. There were no significant changes in mean cartilage thickness in either group.

CONCLUSION:

Compared to NS injection, persons receiving IA-CS injection reported significant reduction in knee pain and less number of knee effusions.

Disability Following Covid – 19: A Cross-sectional Study At An Apex Covid Carehospital Of Central India

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INTRODUCTION:

Covid-19 turned out to be one of the deadliest global pandemics in history. With time it became clear that Covid-19 leads to significant chronic illness, poor health-related quality of life (HRQoL) and functional impairment. The WHO-Disability Assessment Schedule 2.0 (WHODAS 2.0) is an excellent tool to assess residual disability across different cultures and settings. Our study used that tool to assess the extent of disability and associated predictor variables in Covid-19 survivors.

MATERIALS AND METHODS:

This is a cross sectional study, done in PMR OPD AIIMS Raipur from December 2020 to September 2021 after IEC clearance. All adult post covid-19 patients of minimum 3 months duration were recruited and 36-item WHODAS 2.0 (0 = no disability; 100 = full disability) was administered to all patients. The data were analyzed using Socscistatistics statistical package.

RESULTS:

50 patients were enrolled and grouped into recent follow up (3 months completed; n=21) and long follow up (≥ 4 months; n=29) patients. The median WHODAS 2.0 score was 43.2 and 32.7 in those two groups (Mann Whitney Z score -2.20, p 0.03). Also, the score was significantly higher in the elderly (>45 years) and those having co-morbidities. No significant relationship was there with gender, educational status, duration of Covid-19 admission, BMI, smoking, family size or income. The combined effect of age and follow-up interval to the severity of disability was contributing 6.58 % on Multiple Linear Regression analysis.

CONCLUSION:

Recognizing post-COVID-19 sequel and early rehabilitation services can be beneficial in preventing

Functional Outcomes In Patients With Supraspinatous Calcific Tendinitis - A Case Series

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Introduction

Calcific tendinitis of the shoulder is a painful condition due to the presence of calcium hydroxyapatite commonly within the rotator cuff muscles and most commonly affected tendon is supraspinatous. We are reporting a case series where symptomatic and functional improvements were seen within a week of admission in our department.

Case presentation

Two female patients came with complaints of acute left shoulder pain and one female with acute right shoulder pain. The patients reported constant pain at rest and tenderness over the area of the greater tuberosity. They exhibited a decrease in all shoulder motions, Shoulder Pain and Disability Index were on higher side. Imaging studies revealed calcium deposits in the left and right supraspinatous tendons respectively. The management included short wave diathermy and tab aceclofenac 100 mg for pain and range of motion (ROM) and strengthening exercises. All the three patients showed symptomatic and functional improvements in SPADI within a week.

Discussion

There are 3 phases in calcific tendinitis pre-calcific phase, calcification phase, resorptive phase. Severe pain may last for several days, but the symptoms gradually resolves over 2 to 3 weeks, Uthoff and Sarkar proposed a model for the pathogenesis of calcific tendinitis based on its clinical findings as a self-healing condition.

Conclusion

Calcific tendonitis of supraspinatous is self limiting condition but investigations and examination will help us to rule out other conditions causing shoulder pain. Symptomatic relief and functional improvement can be achieved within a weeks with proper conservative management.

A Preliminary Report Of The Study To Evaluate Effectiveness Of Adductor Canal Block On Medial Knee Pain In Knee Osteoarthritis

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Introduction-

Pain, secondary to osteoarthritis is reported mostly in medial aspect of knee. It is a major cause of disability and impaired quality of life in these patients. The aim and objectives of this study are to ascertain effectiveness of ultrasound-guided adductor canal block (ACB) for pain relief and to evaluate functional improvement & change in quality of life in this group.

Materials and Method-

Eighty-four patients were recruited for this prospective crossover trial. They were initially treated conservatively with medicine and exercise. At the end of two weeks, they were offered a crossover to intervention, with ACB for saphenous nerve. Outcome measures, Visual Analogue Scale (VAS) score, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score, Timed up and go (TUG) test, numbers of analgesics ingested per day, and WHO Quality of Life – BREF scores were evaluated at weeks 2,4, and 8.

Results-

During three follow-ups, 38 patients each in ACB and Conservative groups were analyzed. There was no significant difference in demographic and clinical pattern except for the Body Mass Index. Mann Whitney and Wilcoxon test showed improvement of VAS (at week 2), WOMAC (at week 2 and 4), and analgesics ingested per day (at week 2, 4, and 8) in ACB group. No adverse events were reported.

Conclusion-

This study shows that ACB is an effective and safe option for patients who are either unresponsive or unable to take analgesics, for short duration. At week-8 evaluation patient outcomes were similar in both the groups.

Functional Improvement Of The Patients With Achilles Tendinopathy Following Dextrose Prolotherapy

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INTRODUCTION:

Persons suffering from Achilles tendinopathy usually present with posterior heel pain, reduced ankle-foot function and quality of life (QoL). The aim of this study was to measure the heel pain, ankle/foot function and quality of life (QoL) in persons with achilles tendinopathy (AT) following three sessions of dextrose prolotherapy injections.

MATERIALS & METHODS:

The study was conducted at Physical Medicine & Rehabilitation out-patient door. A total of 20 persons with AT, were included in this study. All persons received a total amount of 5 ml of (15%) Dextrose prolotherapy solution at lesion and para-lesion sites. Participants were assessed at baseline and every 4- weeks. Total duration of the study was 12-weeks. The heel pain was assessed with visual analog scale (VAS). The ankle/ foot function and QoL were assessed with Victorian Institute of Sport Assessment-Achilles (VISA- A) and QoL with Foot and Ankle Ability Measure (FAAM) Questionnaire respectively.

RESULTS:

A total 20 persons (60% male) were included. The mean age, body mass index and duration of symptoms were 39 years; 28.42 kg/m² and 11 months respectively. Before intervention, the mean VAS pain, VISA-A and FAAM scores were 7, 44% and 61%. Following 3-sessions of dextrose prolotherapy injections, there were significant improvements ($p < 0.05$) in VAS pain, VISA-A and FAAM score.

CONCLUSION:

Following Dextrose prolotherapy injection, there were significant reduction of heel pain, and improvement in ankle/foot function and QoL. None of the participants reported major side effects except injection associated pain following injections.

Platelet-rich plasma versus corticosteroid injection for the treatment of de Quervain tenosynovitis: a randomised control trial

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Introduction: de Quervain tenosynovitis (DQ) is one of the common causes of wrist pain in middle-aged adults (1). Evidence supports the use of steroid injections after initial conservative management (2). The efficacy of Platelet-rich plasma (PRP) is not well established and only a few studies are available (3,4). So, we carried out a randomised control trial to assess the efficacy of PRP versus corticosteroid injection for the treatment of DQ.

Materials and Method: This randomised double-blind single-centre trial was carried out in the department of PM&R, RGKMC&H, Kolkata. Adult patients between 18-60 years were randomly assigned to either group after fulfilling the inclusion and exclusion criteria. Ultrasound-guided 40mg Triamcinolone Acetonide (Gr A, n=43) or PRP (Gr B, N=43) is given in the first extensor compartment and the outcome was noted at baseline, 1st week, 4th week, 12th week in NRS and QuickDASH questionnaire.

Results: A total of 86 age and sex-matched patients were recruited with a mean disease duration of 43weeks in each group. A statistically significant reduction of pain in NRS score and qDASH was noted in Gr A in the 1st and 2nd visits. In the 12th week, the reduction is comparable in both groups.

Conclusions: The result of this present study suggests, corticosteroid is more beneficial for short-term relief. A study with larger sample size and longer follow-up is needed to clarify the actual benefits. PRP and corticosteroids both are safe and effective treatments for DQ. Ref : 1. Wolf JM, Sturdivant RX, Owens BD. Incidence of de Quervain's tenosynovitis in a young, active population. *J Hand Surg Am.* 2009 Jan;34(1):112-5. 2. Rowland P, Phelan N, Gardiner S, Linton KN, Galvin R. The Effectiveness of Corticosteroid Injection for De Quervain's Stenosing Tenosynovitis (DQST): A Systematic Review and Meta-Analysis. *Open Orthop J.* 2015 Sep 30;9:437-44. 3. Peck E, Ely E. Successful treatment of de Quervain tenosynovitis with ultrasound-guided percutaneous needle tenotomy and platelet-rich plasma injection: a case presentation. *PM R.* 2013 May;5(5):438-41. 4. Sobhia AM, Eman A, ABD El-Rahim M. The Role of Platelet Rich Plasma in Comparison with Corticosteroids in the Treatment of De Quervain Tenosynovitis. *The Medical Journal of Cairo University.* 2020 Mar 1;88(March):141-8.

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A Preliminary Report To Observe The Effect Of Tadalafil In Improving Urodynamic Parameters In Spinal Cord Injury Patients

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Introduction- Urological complications are common and major cause of morbidity/mortality in acute and chronic SCI injury patient. The aim of our study is to ascertain the effectiveness of tadalafil in improving urodynamic parameters in SCI patients and to reduce these complications.

Materials and method – 60 patients of SCI were recruited and were randomised into case and control group. Standard bladder care was given to all patients. Baseline and follow up UDS was performed in both groups to record maximum detrusor felling pressure, bladder capacity, bladder compliances and change in maximum detrusor pressure at voiding/leaking. In control, a placebo (500mg calcium) was given and repeat UDS was done after 2 hours. In case group, 20 mg tadalafil was given and repeat UDS was done after 2 hours. We compared UDS parameters among case and control groups.

Result – Till date we recruited a total 20 patients (14 cases and 6 controls). In case group, we observed that mean maximum detrusor felling pressure decrease from 28.51 to 24.97, bladder capacity increased from 274.78 to 289.78, bladder compliances increased from 20.58 to 22.57, and change in maximum detrusor pressure at the time of leaking /voiding increase from 8.51 to 8.96. We did not observe any side effect of tadalafil. In control group, we observed minimal changes in these parameters.

Conclusion – We concluded that tadalafil (20mg) may be an effective and safe drug in improving the bladder capacity, compliances, pressure and hence may be effective in reducing bladder complications in SCI patients.

To Find Out The Effectiveness Of Total Contact Casting Against Traditional Dressing In Diabetic Foot Ulcers.

2. Materials and Method

STUDY DESIGN – Randomized control trial (Open Label Parallel Observational study)

SAMPLE SIZE- n=40 patients (20 normal Saline dressing, 10 Total contactcasting)

STUDY DURATION- 1year

STUDY PLACE- Dept. of Physical Medicine and Rehabilitation, IPGMER and SSKM Hospital, Kolkata, West Bengal

Inclusion criteria

Diabetic patients of age 18 years and above.

Ulcers measuring more than one cm and more than 6months old.

With controlled blood glucose levels.

Patients with grade 1 and 2 ulcers of Wagner's classification.

Exclusion criteria

Patients with absent peripheral pulses in dorsalis pedis artery, posterior tibial artery.

Known case of hypersensitive or allergic reaction to the drug used in study.

X-rays showing features of osteomyelitis.

Patients with sinus, discharge or soakage.

Patient receiving immunosuppressive therapy.

Patients who have not given consent.

Methodology

After approval of ethical committee and obtaining informed content, computer generated randomization was done until each group brought equal number of patient.

Consent of individual patient were taken.

Both group advised for strict diabetes control.

Group 1- Normal Saline dressing alternate days.

Group 2- Total contact casting.

o Following parameter is evaluated- Ulcer size improvement

Assessment

Assessment of both group were done at 2 weeks follow up.

Results

In all, 20 patients were analyzable in Group A and 20 in Group B. The surface area of the ulcer decreased significantly from first follow-up onward in both the groups ($P < 0.05$ in Group II). Intergroup comparison showed that the reduction in the surface area of the ulcer was significantly more in Group A than in Group B after 2weeks($P = 0.01$).

Functional Evaluation After Visco - Supplementation in Bilateral Osteoarthritis Knee

Platform presentation

1 .Dr. Saroj Kumari -PGT

2 .Dr. Ajay Gupta -Professor

3 .Dr. Shweta Jain -Professor

4 .Dr. Vijender Anand -SR

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Introduction :Exogenous administration of hyaluronic acid also increases the synthesis of endogenous hyaluronic acid ,thus maintaining cartilage integrity . The aim of this prospective interventional study was to evaluate the effectiveness of intra-articular injection of high molecular weight hyaluronic acid in patients with knee osteoarthritis.

Methods :This prospective interventional study was done in the department of PMR at Safdarjung hospital. Based on inclusion and exclusion criteria, 42 participants were included in the study. The assessment was done using the VAS, KOOS, and performance-based functional assessment tests (40-meter Fast Paced Walk Test, 30-second Chair Stand Test, and Stair Climb Test) recommended by OARSI guidelines.

Results :The present study shows a change in the severity of pain assessed using VAS on Day 0 and Day 90 and an improvement in koos score in each of the 5 components as well as in the total score .All three performance-based tests showed improvement.

Conclusion :A single dose of intra-articular high molecular weight hyaluronic acid injection results in statistically significant improvements in pain, stiffness, ADL, and knee-related QOL. It is also effective in enhancing functional activities for at least three months.

Safety And Effectivity Of Botulinum Toxin For Sialorrhea In Preschoolers With Cp - Case Report And Review

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INTRODUCTION:- Excessive drooling after the age of four years is considered as pathological. It is common in cerebral palsy with prevalence of 40 to 47% .It adversely impacts quality of life both physically and psycho-socially resulting in complications like speech disturbance, sleep disturbance, dehydration and aspiration pneumonias etc.

CASE PRESENTATION:-Two known cases of cerebral palsy, each 4 years of age, presented with complaints of excessive salivation and speech difficulty. They were evaluated using Teacher Drooling Scale, Thomas- Stonell/Greenberg Assessment of Drooling and Wilkie and Broody Assessment and then botulinum toxin type A was injected in bilateral parotid and submandibular glands under USG guidance. Follow up was done on day 1, 7 and 30.

DISCUSSION:-Varoius studies have showed good results of botulinum toxin in preschoolers, with doses of 1U/kg/ gland. In our cases, for the first case Teacher Drooling Scale changed from 3 to 1 score, Thomas- Stonell/Greenberg Assessment of Drooling for severity changed from 4 to 1 score, frequency changed from 3 to 2 score and Wilkie and Broody Assessment of Drooling changed from Poor to Good, whereas in second case Teacher Drooling Scale changed from 5 to 3 score, Thomas- Stonell/Greenberg Assessment of Drooling for severity changed from 5 to 3 score, frequency changed from 4 to 3 score and Wilkie and Broody Assessment of Drooling changed from Poor to Fair.

CONCLUSION:-This report shows that injection botulinum toxin type A is less invasive, safe and effective option for treatment for drooling with no adverse effect.

A Prospective Nerve Conduction Study In Acute Thoracolumbar Sci Patients- to Find Correlation With Neurological Deficits And Subsequent Recovery By Asia-scale

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ABSTRACT

Introduction- NCS recordings are sensitive diagnostic tools for assessment of lesion of peripheral nerves. This study aimed at investigating the relationship between neurological deficit following spinal cord injury and subsequent recovery by means of ASIA-scale and electrodiagnostic study. Clinical evaluation with ASIA scale for assessment of degree of injury and prognosis, objective parameters for compliance and customizing rehabilitation plan.

Materials and methods- 30 patients with acute SCI recruited for this prospective study and were evaluated for the mode of injury, level, severity according to the ASIA-scale at PM&R department SMS hospital. The EDx were conducted for bilateral tibial, peroneal and sural nerves at baseline and repeated after 3 months.

Results- The mean age was 50.43 ± 13.70 years, with (M:F-60%:40%). Neurological recovery was significant (p-value=0.003) at 3 months according to ASIA-scale. At 3 months, statistically significant kappa agreement between neurological recovery according to ASIA scale was found with the following parameters on electrodiagnostic study: sensory nerve action potential in bilateral tibial nerve (right side-k = 0.332; left side-k = 0.327) bilateral peroneal nerve (right side-k = 0.328; left side-k = 0.328); CMAP in bilateral tibial nerve (right side-k = 0.332; left side-k = 0.327) and bilateral peroneal nerve (right side-k = 0.328; left side-k = 0.332); SNAP in bilateral Sural nerve (right side-k = 0.397; left side-k = 0.397).

Conclusions- We found significant relationship between electrodiagnostic findings and ASIA scoring for the prediction of neurological deficit and subsequent recovery following an acute traumatic SCI.

Keywords- ASIA -American Spine Injury Association , SCI-Spinal cord injury, EDx-

Efficacy Of Dextrose Prolotherapy In The Treatment Of Plantar Fasciitis

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INTRODUCTION

Plantar fasciitis is a common cause of heel. Prolotherapy is a regenerative injection technique in which a small amount of an irritant solution is injected to the painful site to encourage the formation of healthy cells and tissues. So this study was design to study the efficacy of dextrose prolotherapy in plantar fasciitis patient in relation to Pain using Numeric Pain Rating Scale (NPRS), Foot function using Foot Function Index (FFI) and Plantar fascia thickness.

MATERIALS AND METHOD

This was an interventional cohort study, conducted at PMR department OPD VMMC and Safdarjung Hospital on clinically diagnosed plantar fasciitis 50 patients. Baseline assessments were done and patients undergone USG guided prolotherapy under aseptic preparations. The clinical evaluation was done post-intervention at 2 week and 8 week. Data analysis was done using Statistical Package for Social Sciences (SPSS) version 21.0.

RESULTS

Out of 50 subject, male 21(42%) and female 29(58%) with mean age of 40.486.75 years and mean duration of illness was 1.640.97 years. There was statistically significant reduction ($p < 0.001$) in **NPRS** from baseline 7.660.84 to 4.801.41 at 2 weeks and 1.30.88 at 8 weeks, reduction in **foot function index** scores from baseline 67.7216.37 to 39.1413.04 at 2 weeks and 14.687.98 at 8 weeks and reduction in **plantar fascia thickness** from baseline 5.730.98 mm to 4.620.95 mm at 2 weeks and 3.330.69 mm at 8 weeks.

CONCLUSIONS

USG guided dextrose prolotherapy helps in precise needle placement and is effective in the treatment of plantar fasciitis patients.

Fluoroscopically Guided Intra-articular Depot Methylprednisolone Injection In Sacroiliac Joint dysfunction : A Case Series

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INTRODUCTION:

A Person, suffering from Sacroiliac joint dysfunction (SIJD) usually present with Lower Back Pain, reduced function and quality of life (QoL) leading to disability. The aim of this study was to measure the reduction in pain, improvement in QoL and disability in a person with Sacroiliac joint dysfunction following sacroiliac joint Depot. Methyl prednisolone injections.

MATERIALS & METHODS:

The study was conducted at Physical Medicine & Rehabilitation out-patient door. A total of 10 persons with Sacroiliac joint dysfunction, were included in this study. All persons received a total amount of 2.5 ml of Depot. Methyl prednisolone injections along with lignocaine at affected sacroiliac joint. Participants were assessed at baseline, 1st, 3rd and 6th month. Total duration of the study was 6 months. The sacroiliac joint pain was assessed with visual analog scale (VAS). The QoL were assessed with WHO-BREF and disability with Modified Oswestry disability Questionnaire respectively.

RESULTS:

A total 10 persons (50% male) were included. The mean age, body mass index and duration of symptoms were 36.4 years; 24.06 kg/m² and 6 months respectively. Before intervention, the mean VAS pain and disability scores were 7.4 and 29.7. Following sacroiliac joint Depot. Methyl prednisolone injections, there were significant improvements ($p < 0.05$) in VAS pain, QoL and Modified Oswestry score.

CONCLUSION:

Following sacroiliac joint injection, there were significant reduction of back pain, and improvement in disability and QoL. None of the participants reported major side effects except injection associated pain following injections.

volkmann's Ischemic Contracture With Impaired Vascularity Managed By Minimally Invasive Soft Tissue Release And Capsulotomy

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Introduction:

Volkman's ischemic contracture (VIC) of leg is not a common occurrence and usually follows compartment syndrome. The management plan for this current case was minimal surgical intervention followed by proper orthotic fitting.

Case presentation:

A 26-year-old, male, from Bangladesh, driver by profession met with a road traffic accident allegedly on Feb 2019. Radio-imaging confirmed left hip comminuted fracture which was managed conservatively with left hip plaster and leg traction. Post traction he developed VIC of left leg and was managed conservatively. He developed equinus deformity in his left foot with a wound on the dorsum of the foot with persistent discharge. He was ambulating with minimal weight bearing on left lower limb with bilateral elbow crutches.

Discussion:

Lower limb VIC as such is infrequent, more so with concomitant neuropathy and vascular compromise. There are a few examples of reconstructive surgery in refractive deformities. Here we have done minimal soft tissue release and capsulotomy and provided custom moulded footwear to facilitate a plantigrade foot during stance.

Conclusion:

The minimally invasive soft tissue procedure followed by custom molded shoe has proven to be an excellent treatment modality for this case of VIC with impaired vascularity. The patient is walking without any mobility aid and currently has no other associated complaint.

To Assess The Bmd And Quality Of Life In Post Menopausal Osteoporotic Women After One Year Discontinuation Of Teriparatide Treatment

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Introduction:Osteoporosis is a condition in which reduction of bone strength and deterioration in skeletal microarchitecture.In India,post menopausal osteoporotic prevalence varies between 25-62%.Teriparatide is approved for upto 18-24 months treatment of post menopausal women with osteoporosis.This study was conducted to assess the bone mineral density and quality of life in post-menopausal osteoporotic women after one year of discontinuation of teriparatide treatment.

Methods: A hospital based Cross-Sectional Study conducted in department of Physical Medicine and Rehabilitation, SMS Medical college and hospital, Jaipur. Total 13 patients were taken who were assessed on the basis of DEXA Scan, SF-36(Sort form Health Survey-36) and VAS pain scale.

Results: The mean age of women are 63.30 years. Bone mineral density of spine (P= 0.03), hip (P=0.04) and radius (P=0.04) is statistically decreased after 12 months of treatment as compared to at the time of compilation. There is no statistically significant difference in VAS pain score, SF 36 score and incidence of fracture at compilation of treatment and after 12 months of treatment.

Conclusion:Teriparatidetherapy stimulates bone formation and increases bone remodelling.Discontinuation of teriparatide treatment resulted in a decrease in bone mineral density. Here, we also found that there is no significant difference in quality of life at compilation of treatment and after 12 months of treatment.

Rehabilitation Of A Child After Acute Guillain Barre Syndrome During Covid 19 Pandemic

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INTRODUCTION

Guillainbarre syndrome is a rare inflammatory autoimmune neuropathy present with ascending weakness, sensory deficits, and loss of deep tendon reflexes. But after the nationwide lockdown, as COVID- 19 pandemic response strategies, most of the hospital, and health care resources were allocated towards COVID- 19 pandemic management. As a result many patients who developed illness like acute GuillainBarre(GB) Syndrome are largely left out of it despite being affected by the disease in unique ways.

CASE PRESENTATION

This is a case of a 7 year old child, who presented with weakness of both upper and lower limbs and was diagnosed with GB syndrome. He was given immunoglobulin therapy as a primary mode of treatment. The patient was shifted to physical medicine and rehabilitation ward in a bedridden condition. Despite having many challenges as being COVID dedicated health care facility a comprehensive rehabilitation with all standard precaution as per institutional protocol was planned.

DISCUSSION

Rehabilitation with a shorter duration of hospital stay was very challenging and needs meticulous planning and implementation. In this case, a rehabilitation strategy was planned on a day to day basis. Shorter duration of hospital stay was a priority. Daily progress was monitored and aggressive therapy was given. Patient was discharged within 2 weeks and was able to perform daily living(ADL) without assistance.

CONCLUSION

In GBS there are chances of respiratory involvement and amidst COVID-19 pandemic the patient was treated with immuno modulation alone. Later after shifting to PMR ward rigorous rehabilitation program was started which decreased the hospital stay. This in turn lessen the financial and psychological burden of the patient and his family members, and above all risk of COVID-19 infection. Day to day assessment and strategy with the goal to shorten hospital stay was needed in this COVID 19 pandemic.

Rehabilitation Challenges And Outcome In A Patient Of Traumatic Spinal Cord Injury With Polytrauma During Covid 19 Pandemic

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INTRODUCTION

Spinal cord injury (SCI) is a devastating condition that can lead to significant neurological impairment and reduced quality of life. Spinal cord injury is often a sudden and unexpected life-changing event requiring complex and long-term rehabilitation.

CASE PRESENTATION

A 19-year-old girl sustained a traumatic spinal cord injury. She had multiple level vertebral burst fracture and transverse process fracture, fractures of right glenoid, clavicle and 7 to 12th ribs. Surgical correction and other supportive management was done in the initial stage. Following that she remained in inpatient rehabilitation for 90 days. In Spite of the covid 19 pandemic and limitations in manpower, patient compliance, self motivation and inspiration from the rehabilitation team helped her in improving from a T6 neurologic injury assessed as an American Spinal Injury Association scale (ASIA) grade 'A' in spinal shock to T 10 neurological level ASIA grade 'D'.

DISCUSSION

The overall goal of rehabilitation in this case was functional restoration, to enable participation in society, life and studies and future prospects. Neurorehabilitation in the form of exercise/physical training has shown beneficial effects in functional recovery.

CONCLUSION

This case addresses multiple aspects of the benefits of early and comprehensive indoor rehabilitation. Team efforts and support of friends and family helped the patient in gaining her independence following a polytrauma.

Rehabilitation Of A Child With Traumatic Brain Injury And Cervical Spinal Cord Contusion With Vocal Cord Palsy Post Intubation.

POSTER PRESENTATION

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Introduction:

Traumatic brain injury (TBI) is defined as an alteration in brain function or evidence of brain pathology, caused by an external force and most likely to result in death or permanent disability of a child. According to a study, up to 5% of patients with head injury may also have associated spinal cord injury (SCI). Vocal cord injuries can sometimes be observed following endotracheal intubation.

Case presentation:

A six year old girl was admitted with TBI and cervical spinal cord contusion (C1-C2) following a road traffic accident. During stabilization, she was intubated due to reduced oxygen saturation and mechanically ventilated, with feeding carried out through Ryle's tube. After extubation, the patient was unable to phonate. She was also unable to move her upper and lower limbs. Subsequently, she was transferred to the Physical medicine and rehabilitation department where she underwent physical and occupational therapy, speech and swallowing therapy etc. In about three weeks' time, the patient was able to speak a few words, sit with support and was also able to grip and use objects to a certain extent.

Discussion:

Rehabilitation of Pediatric patients with TBI and SCI has several unique challenges such as difficulty in communication and lack of validated assessment and rehabilitation management protocol. For cases such as this with vocal cord injury, regular consultation with ENT department and speech therapists is of utmost importance.

Conclusion:

This case highlights the importance of a multifaceted therapy regimen along with the constant motivation of the child and caregivers.

Delayed Diagnosis Of Hirayama Disease Due To An Antecedent History Of Trauma – A Case Report

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Introduction

Hirayama disease is a rare, monomelic amyotrophy, caused by repetitive flexion of the neck resulting in forward displacement of the posterior dural sac. This disease has the classical findings of muscle atrophy and weakness of the forearms and hand, either unilateral or bilateral without sensory loss.

Case presentation

This case illustrates a young male who presented with weakness in both upper limbs which was initially static but later progressive in nature with a past history of trauma. The patient was misdiagnosed earlier that the weakness was due to traumatic cervical spinal cord pathology, but a detailed history and physical examination and repeat MRI imaging at a later stage lead to the diagnosis of Hirayama disease.

Discussion

High degree of suspicion is required for the diagnosis of Hirayama disease. Establishing the diagnosis of HD is based on clinical findings and MRI/flexion MR features which include the demonstration of an increased T2-weighted intramedullary cord signal, enlargement of the posterior epidural space, and segmental spinal cord atrophy.

Conclusion

Diagnosis and management at the appropriate time is the cornerstone of any disease management. The case herein reported shows the importance of interaction among professionals and thorough history and physical examination in diagnosis of cases, rather than being biased by old prescriptions and radiological reports.

Watchful Waiting: Spontaneous Resolution of a Rare Case of Congenital Unilateral Tibial Angular Deformity. A Case Report

Dr. Mahesh Choudhary MS Ortho

Background : First described by Heyman and Herndon in 1949, the congenital angular deformity of tibia is characterized by posteromedial bowing of tibial shaft at the junction of proximal 2/3rd and distal 1/3rd. It is a rare condition, the true incidence of which remains unknown. The kyphoscoliosis of the tibia or tibial recurvatum has been considered a 'benign condition' due to its propensity to remodel, where an anterolateral bowing has less favorable outcome^{2, 3}. It has been documented that remodelling may remain incomplete along with not limb shortening which increases with age⁴.

Purpose : To review the initial deformity and subsequent remodeling in posteromedial bowing of the tibia and the outcome of regular long term in this condition.

Case Description : A two days old male child born of a full term normal vaginal delivery presented to outpatient department with congenital angular deformity of right leg with apex posteriorly. There were no other coexisting congenital anomalies. Physical examination revealed angular deformity at the junction of proximal 2/3rd and distal 1/3rd of the right leg with the foot touching the shin [Figure 1]. The apex of angulation was posteromedial. X-rays showed 70° posteromedial angulation in the right tibia and fibula [Figure 2]. Proper counseling of parents was done with respect to pathology, prognosis and possible outcomes with emphasis on the need of regular clinical and radiological follow-up [Figure 3-6]. The child was monitored regularly for remodeling and was provided with compensation for limb length discrepancy only [Figure 7 & 8].

Conclusion: Congenital posteromedial bowing of the tibia does improve significantly during the first years of life, although may leave residual deformities and worsening LLD.

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A case of ischial bursitis with synovial diverticulum extending into thigh muscles

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Introduction

Ischial bursitis (ischio gluteal bursitis) is a condition of inflammation of the bursa which lies between ischial tuberosity and gluteus maximus muscle. It presents as gluteal pain or posterior upper thigh pain, following exercise or sitting for a long time.

Case presentation

66 year old female patient known case of post polio syndrome presented with pain in right thigh inner aspect for 4 months duration, evaluated and ESR &CRP was mildly raised, MRI Pelvis with gluteal region done showed synovial diverticulum extending from right hip joint.

Discussion

Patient was admitted in PMR ward and evaluated, Aspiration of right gluteal synovial diverticulum done and sent for culture & sensitivity which was sterile. Steroid infiltration given to right hip joint under USG guidance. Patient's VAS decreased.

Conclusion

It was an interesting case in which steroid infiltration to right hip joint significantly reduced thigh pain caused by synovial diverticulum. Unless the etiology of irritation on the ischio gluteal bursa is accurately identified and addressed, ischial bursitis usually will not spontaneously remit.

Tubb4a Hypomyelinating Leukodystrophy –a Rare Case

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INTRODUCTION

TUBB4A leukodystrophy is a sporadic childhood neurodegenerative disorder that has been attributed to de novo mutations in the CNS neuronal protein TUBB4A, which likely mediates tubulin dimerization and microtubular stability. This is characterised by delayed developmental milestones or development algression, dy stonia, rigidity, ataxia, choreoathetosis based on level of involvement.

CASE PRESENTATION

In our hospital we treated 6 year old girl born first child of non-consanguineous marriage, presented with clinical indication of global developmental delay. She had history of 4 episodes of febrile seizures and bruxism. On examination she had a proportionately small head ,bitemporal narrowing ,dyskinesia and grade 1 spasticity in bilateral ankle plantar flexors and knee extensors. Her EEG was normal and MRI brain showed mild cerebellar volume loss. She is suspected to be affected with cerebral palsy, metabolic disorders or Ponto cerebellar hypoplasia and evaluated for pathogenic variations and found out as hypomyelinating TUBB4A leukodystrophy on genetic studies.

DISCUSSION

Patient was admitted in department of PMR, Government medical college kozhikode Started on Rehabilitative measures for trunk balance , core muscle strengthening, antiseizure medications ,speech therapy and on regular followup.

CONCLUSION

Most of the cases with same clinical features presented to our Department with a diagnosis of Cerebral palsy but this was a rare and interesting case reported which taught us to think in a different way.

Explore The Efficacy And Safety Of Pecs Blocks For Painful Spastic Shoulder In Tetraplegic (case Report)

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Introduction- Pectoral nerve block is novel regional anesthetic techniques first described by Balanco in 2011 and involves ultrasound guided local anesthetic infiltration of the tissue plane between the pectoralis major and minor muscle.

Case presentation- Patient Vivek 52 year male case of SCI ,ASIA grade A ,C4 complete, tetraplegic with spasticity of upper limb with MAS score 3 for both right and left upper limb ,VAS 10 and no active range of motion and only passive range of motion, was planned for pecs block of lateral and medial pectoral block .

Discussion-Phenol concentration of 4-8% has been used for neurolysis and stimulation frequencies of 0.5 Hz for simplicity here doses needed for 6% aqueous phenol and 2hz stimulation. After pec block, MAS score which was 3 before pec block for spasticity in upper limb remained 3 for both right and left upper limb . Vas was 10 was 5 after the procedure. In passive range of motion internal rotation improved 20degree from 15degree, Flexion improved 100 degree from 90 degree, Extension improved 25 degree from 15 degree in both right and left upper limb after pec block.

Conclusion- Pec block is significantly better post-operative pain control in spastic shoulder in tetraplegic patients. Long duration of action and relatively economy of phenol block. Effect may take two to three weeks to develop. It is a novel case of pecs block in tetraplegic SCI patients.

Platelet-Rich Plasma versus corticosteroid injection for the treatment of Lateral Epicondylitis : a randomized control trial

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Background : Lateral Epicondylitis is one of the common cause of elbow pain(1). Evidence supports the use of steroid injections after initial conservative management(2). The efficacy of Platelet Rich Plasma is not well established and only a few studies are available (3). So we carried out a randomized control trial to assess the efficacy of PRP vs corticosteroid injections for the treatment of Lateral epicondylitis.

Methods : This randomized double-blind single-centre trial was carried out in the Dept of PMR, RGKMCH , Kolkata. Adult patient between 18 to 60 years were randomly assigned to either group after fulfilling the inclusion and exclusion criteria. 40mg Triamcinolone Acetonide (Gr-A , n=26) or PRP (Gr-B, n=26) is given extensor compartment of the elbow and the outcome was noted at baseline one month, three month, six month in VAS and qDASH questionnaire.

Results : A total of 52 age and sex-matched patients were recruited . The final result is waiting and will be incorporated during presentation.

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Ultrasonographic Evaluation Of Plantar Fascia Thickness In Asymptomatic North Indian Adults: A Cross Sectional Epidemiological Study

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1. Introduction:

The purpose of this cross sectional study was to identify a normative data on average plantar fascia thickness on ultrasound and its epidemiological variability in statistically significant number of asymptomatic Indian adult population.

2. Materials and methods:

Setting: OPD

Location: Dept. Of PMR, Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, UP

Study design: Cross sectional epidemiological study

Data collection: Inclusion criteria were being 18 to 65 years old and not having any pain around the heel with palpation. Exclusion criteria were acute heel trauma, any form of previous heel pain and previous surgery in the heel region. After informed consent the plantar fascia thickness was measured 0.5 cm distal to the point of origin in prone position, with feet hanging over the edge of the examination table.

Data analysis: The statistical analyses were performed by latest SPSS software version.

3. Results

Among 211 subjects fulfilling the eligibility criteria 102 were male and 109 were female. The mean plantar fascia thickness among entire population, male subjects, female subjects, dominant side and non-dominant side were respectively 3.19 ± 0.61 ; 3.30 ± 0.59 ; 3.09 ± 0.53 ; 3.18 ± 0.57 and 3.20 ± 0.64 . The mean was significantly higher in men than in women ($p < 0.05$) but similar in dominant and non-dominant feet ($p > 0.05$).

4. Conclusion:

The Ultrasound measured normal thickness of the plantar fascia reported in the literature varies in its ranges (2.2-3.6 mm). In our study we found it to be 3.19 ± 0.61 mm at 0.5 cm distal to the point of origin of planter fascia. Amongst age, sex, weight, height and body mass index; only age significantly co-related with the plantar fascia thickness.

Failed Back Syndrome In A Patient With Behcets Disease

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INTRODUCTION

Post surgical spine syndrome/failed back syndrome is defined by the International Association for the Study of Pain as “lumbar spinal pain of unknown origin either persisting despite surgical intervention or appearing after surgical intervention for spinal pain originally in the same topographical location”.

CASE PRESENTATION

41 year old male who is a known case of Behcet's disease and right hemiparesis (neurobehcetssequelae), on regular medication, presented with complains of low back pain since one year. Pain was radiating to left lower limb with occasional numbness. MRI showed L4-L5, left posterocentral disc protrusion causing severe spinal canal and left neural foraminal narrowing and compression of left traversing and exiting nerve roots. L4-L5 microdiscectomy was performed 8 months back. Symptoms persisted even after the surgical intervention. Repeat MRI showed L4-L5 small left posterocentral disc protrusion causing spinal canal and severe left neural foraminal narrowing and compression of left traversing and exiting nerve root.

DISCUSSION

The patient was admitted in the Department of PMR, Government Medical college, Calicut and was managed with TENS to low back for pain relief and spinal brace for spinal support.

CONCLUSION

The reason for failed back syndrome in this patient was the persistence of disc protrusion even after surgical intervention.

A multi disciplinary approach is most appropriate for patients who are unlikely to benefit from further formal surgical intervention.

Effectiveness Of Prolotherapy In Sacroiliac Joint D

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INTRODUCTION

AIM

To study the effectiveness of prolotherapy in patients with sacroiliac joint pain

OBJECTIVES

To study the effectiveness of prolotherapy in patients with sacroiliac joint pain using the outcome measures- the Visual Analogue Scale (VAS) for pain, the Roland Morris Low Back and Disability Questionnaire (RMQ) and the Oswestry Disability Index (ODI).

MATERIALS AND METHOD

Study Design: One group Pre Test and Post Test interventional design Study Setting: Out Patient Department of the speciality of Physical Medicine and Rehabilitation, Govt Medical College, Kozhikode. Study Period: Up to 1 year after ethical committee clearance. Sample Size: As per master study (The use of prolotherapy in the sacroiliac joint by M Cusi, J Saunders, T Wisbey, P Lucas, S Wilson), the standard deviation was found to be 5 and effect size (d) is 2.5. Hence calculatd sample size is 31

STATISTICAL ANALYSIS Statistical analysis will be performed using the SPSS software. The VAS for pain, RMQ score and ODI will be assessed using Paired t-test.

RESULTS

During the time period, 31 patients with low back pain of sacroiliac origin were included in the study and given prolotherapy injection based on VAS score, RMQ score & ODI score. Among them, 20 (64.5%) were females, 11 (35.4%) were males. VAS, RMQ, ODI score were significantly reduced in 25% of cases after first injection, 29% of cases after two injections, 9.67% of cases after three injections. 16% of cases lost follow up after first injection. Also 19.3% of cases showed increased VAS, ODI & RMQ score after first injection and dropped from the study.

CONCLUSION

Prolotherapy is a simple, cheap and effective method for treating low back pain of sacroiliac dysfunction. A satisfactory proportion of patients have clinically meaningful functional gains with prolotherapy treatment. The patients who are not likely to improve with prolotherapy are evident by lack of improvement following the initial prolotherapy injection itself.

Looking Beyond Xray & entering Into A Dimension Of Foot Pressures Changes For Diagnosing Plantar Fasciitis – A Case Series

POSTER PRESENTATION

Presenting Author: Dr. Amol Khade

Co- Authors: Dr. I. S Chaitanya Kumar, Dr. Muni Srikanth

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Introduction: Heel pain is a common occurrence. Although considered self-limiting it can be debilitating sometimes with severe pain and activity limitations.

The pathophysiology of plantar fasciitis is poorly understood, obesity, tight Achilles tendon, diabetes, and neuropathy are commonly associated risk factors.

Methodology: Patients reporting heel pain were clinically examined, a radiologically X-ray was done & simultaneously foot pressure analyses were performed using Dier's formatric foot pressure analysis system.

Results: Data collected from 8 patients suggestive of high-pressure zone formation in the hind foot part with relative weight shifting on the affected side. The highest-pressure point is at the medial side at the medial calcaneal side. This finding is more or less similar in all patients (figure).

Effectiveness Of Extra corporeal Shock Wave Therapy In The Treatment Of Chronic Plantar Fasciitis.

Dr. Valavan.S¹, Prof. Dr.T. Jayakumar², Dr. A. Rajakumar³, Dr. K. Premalatha⁴, Dr. B. Jeyanthi⁵, Dr. A. Guna⁶

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Introduction:

Plantar fasciitis is the most common cause of pain in the plantar region of the heel. The aim of the present study is to evaluate the improvement of heel pain, mobility and personal satisfaction in chronic plantar fasciitis cases treated with ESWT.

Objective:

To determine the effectiveness of ESWT in the treatment of chronic plantar fasciitis -in terms of functional outcomes and symptom reduction.

Materials and Methods:

Setting:

Outpatient Clinics of Government Institute of Rehabilitation Medicine.

Location of the study:

Government Institute of Rehabilitation Medicine, K. K. Nagar, Chennai-83.

Study Design: Case Series

Study Population

10 chronic plantar fasciitis patients attending outpatient clinic of Government Institute of Rehabilitation Medicine.

Methodology

All 10 patients with clinical signs and symptoms of chronic plantar fasciitis were selected according to inclusion & exclusion criteria. Patients received ESWT weekly twice, at three consecutive weeks, 1500-3000 shocks per treatment, 5-10 HZ frequency at around the heel region.

As outcome measures, the visual analogue scale (VAS), Foot and Ankle Ability measure ADL (FAAMADL) were used.

Result

Based on this study VAS score, FAAMADL score has been improved

Conclusion

ESWT consisting twice a week for three consecutive weeks could be an effective and safe modality for pain management in patients with chronic plantar fasciitis.

Rehabilitation Of An Elderly Bilateral Transfemoral Amputee Due To Peripheral Vascular Disease: A Case Report

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Introduction:

The major cause of lower extremity amputation in recent days is PVD, particularly when associated with smoking & diabetes mellitus and it would lead to reduction in functional capacity that impairs quality of life & causes significant socio-economic burden. The role of PMR experts is important in providing an overview of functional level & QOL.

Case presentation:

A 72-year male who was apparently normal 2 year back, met with an accident developed injury over his left heel. During evaluation he was found to have diabetes mellitus and he was also a chronic smoker and alcoholic. Despite conservative management for 9 months wound got worsened and in addition he sustained injury over both great toes, which progressed to bilateral femoral-popliteal occlusion resulted in wet gangrene and chronic limb ischemia. Due to chronic limb pain, he underwent trans femoral amputation initially on Right LL followed by Left LL after 3 months.

Discussion:

Rehabilitation of geriatric vascular amputee is always challenging. On admission patient was using wheel chair for ambulation. After complete evaluation done with cardiologist, patient was given hip extensor, crutch muscle strengthening exercises & hip ROM exercises for prosthetic fitting. He was initially trained with bilateral stubbies & later with bilateral trans femoral Endo skeletal prosthesis with pneumatic knee joint. At the end of training, he walked more easily with prosthesis and experience improvements in activities of daily living.

Conclusion:

With appropriate prosthetic training and physical therapy, this patient had achieved improvement in functional mobility and there by his quality of life has improved.

EFFECTIVENESS OF MIRROR BOOK THERAPY FOR THE TREATMENT OF IDIOPATHIC FACIAL PALSY

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Introduction:

Bell's palsy is an idiopathic, acute peripheral nerve palsy of cranial nerve VII, & it is the most common cause of facial nerve palsy. The exact cause is still unknown.

Neural plasticity is considered to be the main mechanism of mirror therapy. In this therapy we use a bi-fold mirror to twice reflect the half of the face. Standard facial rehabilitation treatment consisting of neuromuscular re-education, massage, myofascial release, stretching, taping, & postural training.

Objective:

To determine the effectiveness of Mirror book Therapy in conjunction with facial physical rehabilitation for idiopathic facial nerve palsy.

Materials and Methods:

Setting:

Outpatient Clinics of Government Institute of Rehabilitation Medicine.

Location of the study:

Government Institute of Rehabilitation Medicine, K. K. Nagar, Chennai-83.

Study Design: Comparative study

Study Population

10 patients with idiopathic facial nerve palsy attending Outpatient Clinics of Government Institute of Rehabilitation Medicine.

Methodology:

All 10 patients with clinical signs & symptoms of idiopathic facial nerve palsy were selected according to inclusion & exclusion criteria. Out of this 5 Patients received Mirror therapy & standard facial rehabilitation treatment 5 times in 1 week for 2 months, remaining 5 patients received only standard facial rehabilitation treatment. Before & after treatment, patients in both groups were assessed using the Facial Grading System (FGS) score, the Facial Disability Index-Physical (FDIP) score, and the Facial Disability Index-Social (FDIS) score.

Results:

Based on this study, FGS, FDIP, & FDIS score has improved in group who received both Mirror book therapy & standard facial rehabilitation.

Conclusion:

Mirror book therapy with standard facial rehabilitation could be one of the effective treatments for idiopathic facial nerve palsy.

A Million Dollar Mile Stone - Journey Of A Wheelchair Bound Cp Child Towards Independent Standing With Orthosis

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INTRODUCTION

Cerebral palsy (CP) describes a group of permanent disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain.

CASE PRESENTATION

13 yr old female child presented to our side as a case of cerebral palsy (mixed type) with B/L knee flexion & Equinus deformity. Almost never treated for her condition since childhood but visited many general practitioners .Bed ridden since the age of 4. Wheel chair ambulatory. H/o delayed milestones & seizure disorder. Totally dependent for all ADLs with poor balance & speech disorder. Spasticity present in the Gastrosoleus & Hamstrings.

DISCUSSION

Patient started with Baclofen & Anti-Epileptics

Prime focus is to correct the deformity (initially by conservative B/l pop boot traction then by fractional lengthening of both Hamstrings & Lt Tendo-Achilles lengthening)

Physiotherapy & Occupational therapy & Speech therapy started alongside.

Main focus on trunk balance, fine motor activities, Neuro-Facilitation techniques .Orthosis support given. At present , patient can able to perform ADLs with minimal to moderate assistance. Good trunk balance. Independent standing with the help of Gutter Frame Walker & KAFO.

CONCLUSION

Proper systematic goal oriented Rehabilitation is very essential in Cerebral Palsy patients. Getting a child to walk be in crutches , braces or a walker is much better than having him in a wheelchair . Even small degrees of improvement makes a great difference.

A Socratic, Bedside Discussion Of Pressure Injury Among Spinal Cord Injury(sci) Individuals And Care Givers.

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INTRODUCTION: Pressure injury (PI) is a common problem we usually encounter in SCI individuals. These individuals are bedridden for longer durations, and due to lack of knowledge regarding prevention among them and care givers, could lead to the development of PI. The Aim of this bed side teaching of individuals of SCI and care givers was to impart knowledge of the risks, causes, ways to prevent PI and answer their queries.

MATERIAL AND METHOD: The individuals admitted in AIIMS Bhopal PMR ward with SCI and their caregivers were given a set of questionnaires consisting of questions related to knowledge about the risk, causes and prevention of PI. Two-way interaction session was conducted in the ward itself using power-point presentation and hands on demonstration. Presentation was full of images, short videos and tables in language comfortable to the individuals and their caregivers. Post class interaction session was done. Evaluation is done by pre and post questionnaire responses marked by the individuals and care givers.

RESULTS: There was a significant difference in terms knowledge gained by SCI individuals and caregivers post interaction session.

CONCLUSION: These bedside interaction and teaching should be encouraged more, as individuals actively participate in these activities and are also free to ask all their queries. It also establishes a good rapport of doctor with the individuals and their care givers.

A CASE REPORT OF POST TETANUSSEQUALAE REHABILITATION

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INTRODUCTION

Tetanus is a vaccine preventable acute infectious disease characterized by tonic spasm of voluntary muscle. The key strategies in management of tetanus are blocking further tetanus toxin release, neutralizing unbound toxin and alleviating effects of already bound toxin. Few patient's experiences post tetanus sequelae which manifests in the form of muscle weakness, stiffness of joints, Movement restriction and difficulty in Activities of Daily Living.

CASE REPORT

We report a 35-year-old male patient who had generalized stiffness, history of RTA 5 months ago following which he sustained injury over his foot which was sutured in a local hospital and tetanus injection was administered. On the eighth day of injury, he started developing stiffness over the jaw which then progressed to involve entire back muscles. He was admitted in ICU and was managed for about 2 months during which PMR reference was sought and he was started on appropriate medications and physical therapy. He was asked to follow up in PMR OPD post discharge. During follow up, he had pain in bilateral shoulders, difficulty in over head activities and limitations in upper body dressing due to persistent joint stiffness. He initially was managed with oral medications & Physical therapy with minimal improvement in symptoms. So, he received intra articular injections followed by comprehensive rehabilitation program. His pain reduced and regained complete range of motion.

CONCLUSION

Post tetanus recovery, there is persistent musculo skeletal issues in the form of pain & joint stiffness timely interventions & comprehensive rehabilitation will reduce complications and morbidity.

Epidural Spinal Cord Compression With Paraplegia As Initial Presentation Of Acute Myeloid Leukemia: A Case Report

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INTRODUCTION:

Acute myeloid leukemia (AML) is second most common type of leukemia in childhood. Spinal cord compression as initial presentation is extremely rare.

CASE PRESENTATION:

9-year-old male child had sudden onset of weakness and sensory loss of both lower limbs associated with incontinence in bowel and bladder function. Surgical removal of epidural mass was done and his pathological examination was suggestive of non-specific abscess. 6 months post-surgery child was brought to PM&R OPD with multiple pressure injuries, spasticity, fever and no improvement in neurological status. After admission repeated episodes of high-grade fever were present and detailed fever work-up was done following which management of Urinary tract infection and infected pressure injuries was done. Despite appropriate management febrile episodes did not subside and on repeat investigation Blasts cell were reported in peripheral smear. After bone marrow aspiration and flow cytometry diagnosis of AML was made.

DISCUSSION:

AML presenting as epidural mass compressing spinal cord is very rare and associated with poor prognosis. In initial stages of AML sometimes patients can present without haematological abnormalities and can take long duration for specific AML findings to appear which can lead to delay in diagnosis and initiating appropriate management. Neurological outcome depends on the rate of progression and the timing of diagnosis and intervention in AML.

CONCLUSION:

AML can rarely present as an epidural mass and should be considered as a differential diagnosis in case of non-traumatic spinal cord injury in paediatric age group.

Shoulder Pain And Injury After Covid-19-vaccination

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INTRODUCTION

Vaccination against SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2) has shown effectiveness in combatting severe infections and reducing hospitalizations. The common side effects of the COVID-19 vaccine after an intramuscular injection may include transient mild pain, soreness, fever, and weakness for the initial 1-2 days. Shoulder injury related to vaccine administration refers to shoulder pain and stiffness arising after vaccine administration.

CASE PRESENTATION

A 29-year-old male not known to have any degree of shoulder pain or shoulder-related complaints received intramuscular Covaxin® vaccine (inactivated whole virus vaccine, Bharat Biotech International Limited, India) in the same shoulder 16 days earlier. patient had no complaints of rhinorrhoea, nasal congestion, and cough for 3 days before the vaccine administration.

On examination her left shoulder became painful and rigid, with limited movement and significant dysfunction that hindered his usual daily activity, especially overhead activities.

DISCUSSION

This may have increased the viral reproduction potential, and the antigen-antibody reaction may have produced enhanced symptoms. It is recommended that a proper land marking technique for vaccination in the deltoid muscle should be followed; the needle should be aimed in the center of the triangle formed by the acromion and deltoid muscle insertion. A higher injection site may injure the underlying bursa, bone, or the nerve. An injection too far to the posterior side may injure the axillary nerve. A too short needle may introduce the antigen in the subcutaneous tissue while a too long needle may injure the underlying bursa.

CONCLUSION

To conclude, errors in vaccine administration may sometimes lead to local inflammatory reactions and subacromial bursitis.

Future research is needed to identify the vaccination standards (needle size and anatomical site of injection) that best prevent SIRVA.

Orthotic Management Of A Child With Ewing's Sarcoma Following Failed Fibular Strut Surgery

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AIM: To provide customized HKAFO to a child with Ewing's sarcoma having undergone excision of proximal 2/3rd of femur

MATERIALS AND METHODS:

A 2-year-old girl presented with swelling of the upper right thigh which was noticed by parents since 1 year. She initially received 7 cycles of chemotherapy, followed by wide excision of upper two-thirds of femur and fibular strut with tibial cortical graft for femoral reconstruction on 31/1/22. The graft failed and was resorbed. Multi disciplinary meeting was conducted and it was decided to withhold further surgical intervention for the time being and to provide a customized device for the child to be able to stand and take few steps with support, whilst monitoring the progression of the underlying disease and condition of the child. After careful consideration of all aspects, the customized HKAFO was thought to be an option for trial and a POP mould was taken for fabricating the same.

RESULT:

The child was able to stand with support using the customized HKAFO. The design of the same will be shown in the presentation.

CONCLUSION:

Customized orthosis and gait aids constitute important interventions for patients with malignancies who have to undergo limb salvaging procedures and are left with minimal to no skeletal support in the salvaged limb.

Compressive Myelopathy Secondary To Skeletal Fluorosis: A Way Forward For Prevention In The Community

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Case report abstract

Introduction:

India is endemic to skeletal fluorosis (SF) with 230 districts (19 states) at increased risk of fluoride-toxicity in drinking water. Compressive myelopathy in SF is rare but the most severe complication leading to disability. Early detection of SF by screening (skeletal survey and fluoride testing) clinically suspicious cases from endemic areas is crucial.

Case presentation:

A 41-year-old man from Nawada (Bihar), presented with a 2-year history of weakness, sensory loss of both lower limbs and loss of bowel, bladder sensation and control. On examination, he was T6 AIS A (non-traumatic spinal cord injury). Dental mottling and diffuse osteosclerosis (X-ray) made suspicion of skeletal fluorosis as differential. Urine and serum toxicological analysis revealed high level fluoride (13.5 ppm, 0.2 ppm respectively). Furthermore, we carried out drinking water testing from the concerned location in the Ecotoxicology lab (AIIMS), which also revealed high levels of fluoride (2.08 ppm). Simultaneously he underwent spinal cord decompression at AIIMS (Neurosurgery). Barthel index improved from 10 to 45 following 3 months of comprehensive rehabilitation.

Discussion:

10% of individuals with SF in later stages show neurological complications. Drinking water is the most common source of fluoride toxicity. Apart from health education and routine rehabilitation, starting community awareness programmes, and setting-up defluoridation plants or training for home-based defluoridation techniques should be considered.

Conclusion:

Early detection of SF is of utmost importance to prevent neurological complications and further disability. Additionally, medical rehabilitation involving physiatrists is very important for functional improvement in such cases.

Guillain-barré Syndrome In First Trimester Of Pregnancy and A Nullipara, A Rare Presentation And It's Rehabilitation.

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AIM :

We report a 21-year-old nullipara, who developed GBS- AMSAN variety, in early pregnancy and present an overview of management and rehabilitation for GBS in women diagnosed in first trimester pregnancy.

MATERIALS :

Neurological recovery and functional outcomes at admission and during the course of rehabilitation were assessed with serial manual muscle testing (MMT), functional independence measure (FIM), Barthel index and Hughes functional grading scale and Overall disability sum score (ODSS).

METHODS :

We describe the unusual presentation of antenatal first trimester GBS, who presented in PMR department in St John's Medical College & Hospital. Respiratory, autonomic, motor, sensory and fetal assessment done and functional status at admission and at regular intervals were accessed.

RESULTS:

Intravenous Immunoglobulin (IVIG) was the treatment given her in first trimester. Medical management and early rehabilitation resulted in early recovery and functional independence. She is currently undergoing rehabilitation with a single live fetus of 20 weeks gestation and is able to stand with maximal support.

CONCLUSION:

The management of GBS in pregnant patients is no different to other patients and consists of IVIG and/or plasmapheresis and supportive care. GBS, itself is not an indication for termination of the pregnancy. The severity of polyradiculopathy seems to be unrelated to fetal outcomes, in contrast to the causative infection.

Post-covid Avascular Necrosis Of Bilateral Hip Joints: A Case Report

Mode of presentation : Poster presentation

Presenting author : DrShoibamJenifa Devi¹

Co-authors: Dr. Raktim Swarnakar², Dr. Sushil Kumar³, Dr. S L Yadav⁴, Dr. Sanjay Wadhwa⁵

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Introduction: The cause-effect relationship between steroid use and Avascular Necrosis (AVN) has been well established. Steroid has been used as a life-saving treatment for COVID-19. Apart from steroids, other hypotheses exist for Post-COVID AVN. We present a case report of Post-COVID AVN.

Case presentation:

A 37-years-old male presented with both hip pain with severely restricted range of motion. Following severe Covid-19 in Oct 2020, he started to experience mild symptoms around 8 months Post-COVID which he ignored and presented to the doctor after 10 months of symptoms. AVN B/L hip was diagnosed (Association Research Circulation Osseous classification stage IV). Intraarticular Platelet-rich plasma was given (two doses, one month apart). Modified Harris Hip Score was used to document the outcome; first and second visit score, 13 and 34 respectively. Barthel Index score, first and second visit were 60 and 70 respectively.

Discussion:

It is reported that Post-COVID steroid-induced AVN occurs earlier and at a lesser cumulative dose as compared to the non-COVID steroid-induced AVN. In our case, duration is comparable as mentioned in the non COVID steroid induced AVN literatures, but with a lesser cumulative dose of 880mg of Methylprednisolone.

Conclusion:

AVN is a grave concern in COVID patients treated with steroids. Hence, early screening is of utmost importance in all cases irrespective of dose and duration of steroid use; patients must remain alert and seek medical attention for early treatment to prevent functional limitations and disability. Furthermore, PRP may be effective in functional improvement in such cases of AVN.

A STUDY TO COMPARE EFFICACY OF INTERCOSTAL NERVE BLOCK VERSUS ERECTOR SPINAE PLANE BLOCK IN PRIMARY COSTOSTERNAL SYNDROME

Presenting Author - Dr, Ankita Singh Roy (Post graduate trainee)

Co-authors- Dr.Ishita Dey (Senior Resident),Dr.Debajyoti Ghosh (Senior Resident),Dr.Piu Dhua (Senior Resident),Dr. Soumyadipta Ghosh (Assistant Professor),Dr.Aniketa Banerjee (Associate Professor),Dr.Pallab Das (Head of the Department)

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INTRODUCTION-The aim of the study is to compare the clinical efficacy of erector spinae plane block versus intercostal nerve block in primary costosternal syndrome. The objective of the study is to assess and compare the improvement in pain severity by Numeric Rating Scale and improvement in chest wall expansion.

MATERIALS AND METHODS-The study was undertaken in the department of Physical Medicine and Rehabilitation at R.G.Kar Medical College and Hospital and included 24 patients (>18years) diagnosed with primary costosternal syndrome after applying inclusion and exclusion criteria. Patients underwent either Intercostal nerve block (n=12) or Erector Spinae Plane Block (n=12). We compared improvement in pain severity by Numeric Rating Scale and improvement in chest wall expansion measured in centimetres as clinical outcomes after 1 week and 4 weeks. Grand chart was prepared in MS-Excel while Statistical Analysis was performed using SPSS® v23.0 (Property of SPSS Inc., USA)

RESULTS-The outcome was the post intervention pain, assessed with Numeric Rating Scale. The ESPB group showed lower NRS values than the ICNB group ($p < 0.05$). Chest wall expansion was better post intervention in the ESPB group.

CONCLUSION-Although from week 1 to week 4 there was an increase in the numeric rating scale in both the groups yet there was statistically significant improvement at 4 weeks from baseline with ESPB group being better.

**TITLE: POSTURAL TACHYCARDIA SYNDROME {POTS}
IN SPINAL CORD INJURY**

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Introduction: Spinal cord injury (SCI) disrupts the descending pathways of the nervous system. Autonomic dysfunction may also manifest as Postural Orthostatic Tachycardia Syndrome (POTS), causing inadequate cardiovascular regulation. Stress/ injury/ surgery are some of the most common trigger factors for POTS, still it has not been reported commonly in the literature in relation to SCI. The condition could severely affect a patient's quality of life and thus rehabilitation.

Case presentation: A 19-year-old female with three month old traumatic paraplegia due to spinal cord injury had sinus tachycardia ~150bpm associated with fatigue, dizziness, headache, palpitations and presyncope with no orthostatic hypotension whenever the patient was on head-up tilt. After relevant investigations for the secondary causes of tachycardia, a diagnosis of exclusion was made as Postural tachycardia syndrome. Non pharmacological and pharmacological measures were taken to control the tachycardia, resulting in the resolution of associated symptoms within one week and the patient continued with planned rehabilitation.

Discussion: The differential diagnosis, in this case, was orthostatic hypotension, vasovagal syncope(VVS), inappropriate sinus tachycardia (IST), neurally mediated syncope (NMS) and Postural Orthostatic Tachycardia Syndrome (POTS). POTS could result from mild autonomic neuropathy, hypovolemia and abnormal renin-aldosterone response, genetic or acquired deficiency of norepinephrine receptors.

Conclusion: After ruling out the common causes of tachycardia with orthostatic symptoms, there was a need to think of a rare cause. POTS has very overlapping symptoms and often misdiagnosed affecting patients quality of life. It was a diagnostic and rehabilitative challenge to manage this rare presentation.

Title :Effect of Spasticity, Voluntary Motor Control and Range of Motion of the Lower Extremity on Functional Mobility in children with Spastic Cerebral Palsy.

Name : Dr. Roshni Himanshu Jhaveri

Introduction: This study assesses the distribution of spasticity, range of motion deficits, and voluntary motor control problems in ambulation children with cerebral palsy (CP), and examines how these impairments relate to functional mobility in different environments [home(5metres (m)), school(50m) and community(500m)].

Materials & Methods: Sixty three children (39 males and 24 females) with mean age of 7 years with SD of 2.4 years of GMFCS grade I, II and III were evaluated with modified Ashworth scale (MAS) for spasticity , passive rom and SCALE guidelines for selective voluntary motor control and functional mobility scale (FMS).Types of CP were spastic diplegia (n=56) and triplegia(n=7).

Results:

- Children in the GMFCS I group had significantly better FMS scores than those from the GMFCS II and III groups.
- Significant positive correlation was seen between hip, knee and ankleVMC and FMS at 5m, 50m ,500m.
- On univariate and multivariate regression analysis :
 - 1) FMS at 5m was significantly affected by mild (1+, 2) knee flexor spasticity , unable to impaired hip voluntary motor control , unable to impaired knee VMC, unable ankle VMC .
 - 2) FMS at 50m was significantly affected by minimal (1) hip flexors and mild (1+, 2) knee flexors spasticity , impaired knee and unable ankle VMC.
 - 3) FMS at 500m was significantly affected by mild knee flexors (1+, 2) spasticity , unable to impaired knee and unable ankle VMC & anROM index of 3.

Conclusion: Hip and Knee flexor spasticity coupled with voluntary motor control deficits across the mentioned joints of the lower limb interfered with functional mobility more than other impairments.

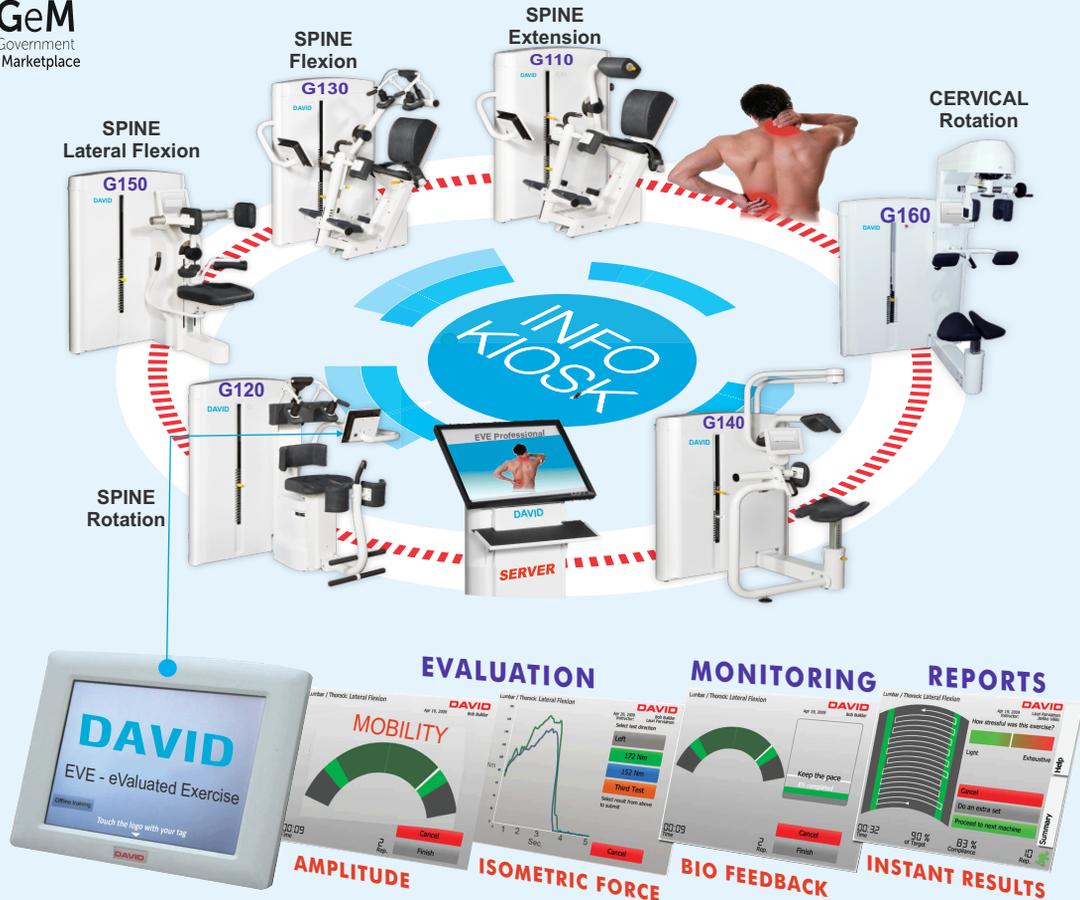
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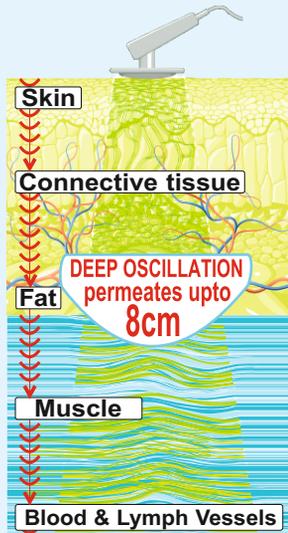
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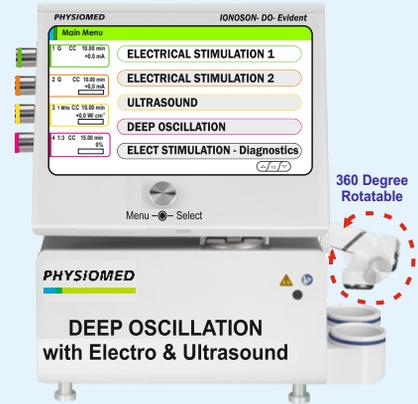
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