27th Annual State Conference 2025

Theme: New Heights in PM&R: From Nature To Next



~ Date ~

4th January, 2025
Saturday

~ Venue ~

Kushal Palli Resort,
Hilltop, Ajodhya,
Purulia, West Bengal

Organised by

Indian Associatian of Physical Medicine & Rehabilitation, West Bengal Branch

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Indian Associatian of Physical Medicine

& Rehabilitation, West Bengal Branch

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Message from

Secretary

Indian Association of Physical Medicine and Rehabilitation

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

It gives me immense pleasure and joy that the West Bengal Chapter of IAPMR is organizing 27th Annual State Conference a landmark in history of IAPMR in India.

The conference will feature a series of keynote sessions panel discussion, and presentations, covering a variety of topics in the rehabilitation sciences. It will provide a platform for learning, networking, and collaboration with renowned experts in the field. The Conference is being organised at Kushal Palli Resort, Ajodhya, Purulia, West Bengal. This is for the first time this Conference is being organised at such remote location. It will help in creating awareness about PMR to wider populations and public at large.

I congratulate the

1. President - Dr Mouli Madhab Ghatak
2. Vice Chairman - Prof (Dr) Partha Pratim Pan
3. Secretary - Dr Prem Kumar Sarkar
4. Chairman, Academic Committee - Prof (Dr) Rajesh Pramanik

The theme of conference THEME: NEW HEIGHTS IN PM&R: FROM NATURE TO NEXT is very unique.

I would like to invite everyone to this special and unique Conference to join in large numbers to make this a successful event.

I wish the best for a successful event for the organizers.

Long live IAPMR

Jai Hind.

Dr Sanjay Kumar Pandey
Secretary
AIPMR



Message from

President
IAPMR, WB Branch

Dear Colleagues,

I feel pleasure to express that WBPMRCon'2025 being held in Purulia, is going to be one of the best state level Conferences in regards to the interesting scientific interaction exchanging warm regards among all generations of PMR faculties, and enjoying the nice weather & scenic beauty of Purulia in this winter. The academic Conference along with our executive committee members have worked sincerely to make it amazingly successful in all reports, I thank all of them.

I warmly welcome all our joiner to senior members, PGTs, and accompanying persons including families to feel the highest level comfort in the friendly atmosphere in this conferences.

Thanking you,

Dr. Mouli Madhab Ghatak
President
IAPMR, WB Branch



Message from

Secretary
IAPMR, WB Branch

Dear Esteemed Delegates,

I would like to extend a warm welcome to all of you to the 27th Annual State Conference of IAPMR WB Branch at Kushalpalli Resort, Hilltop, Ajodhya, Purulia on 4th January 2025.

The theme for this year 'New Heights in PM&R: From Nature to Next' is poised to pave the way for the future of the subject. I invite all speakers, chairpersons and delegates to engage in meaningful discussions and share research experiences. The event has been carefully curated to satiate our members' appetite for knowledge.

I extend my congratulations to the organising committee, without whose untiring efforts this event would have been impossible. I would also like to thank all the pharmaceutical companies who have actively participated in the CME.

I wish this conference a grand success.

Dr. Premesh Kumar Sarkar
Secretary
IAPMR, WB Branch



Message from

Chairperson, Academic Committee
27th Annual State Conference 2025

Dear colleagues,

Greetings to all the faculties and delegates attending the 27th Annual State Conference of IAPMR West Bengal Branch being held at the picturesque venue of kushal palli, Ajodhya hill top, Purulia on 4th, January,2025.

In current day practice of Physical Medicine and Rehabilitation, it is very difficult for a physiatrist to practice holistically covering all the fields of the subject, due to an ever expanding amalgamation of a number of sub specialities. The seamless transition among the different sub specialities is call of the day. The subject has become bigger and better and the our physiatrists are exploring newer possibilities and potentials and developing expertise in the fields of Neuro Rehabilitation, Rheumatological and Musculoskeletal Rehabilitation, Paediatric Rehabilitation, Cardio pulmonary Rehabilitation, Sports Injury Rehabilitation, Geriatric Rehabilitation, Cancer Rehabilitation etc.

Due to shortage of time, this year in scientific session, we are being able to cover only a few of the sub specialities of PMR, but we certainly hope to cover all other sub specialities in future conferences and CMEs.

Nevertheless, I wish all delegates and faculties, a captivating day of academic discussion encompassing a number of sub speciality domains of Rehabilitation.

Thank you

Prof (Dr.) Rajesh Pramanik
Prof. & HOD
Dept of PMR, IPGMER, Kolkata
Chairperson of Academic Committee
IAPMR West Bengal branch

Indian Associatian of Physical Medicine & Rehabilitation
West Bengal Branch

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Indian Associatian of Physical Medicine & Rehabilitation
West Bengal Branch

27th Annual Conference January, 2025

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Dr Pranesh Mondal

Dr Siddhartha Sinha Ray

Program schedule of 27th Annual State Conference of IAPMR, West Bengal Chapter

Venue: Kushal Palli Resort, Ajodhya, Purulia, West Bengal
Date: 04.01.2025

THEME: NEW HEIGHTS IN PM&R: FROM NATURE TO NEXT

1. **Registration: 7:30am - 8:30 am**
   Breakfast

2. **Pearl of Cases: (5+1 mins): 8:30am – 8:50am**
   Chairpersons:
   Prof. (Dr.) Sanjay Pandey, HOD, Dept. of PMR, AIIMS, Patna
   Dr. Aniketa Banerjee, Associate Professor, Dept. of PMR, Midnapore MCH, Midnapore
   Dr. Vasundhara Ghosal, Associate Professor, Dept. of PMR, IPGME & R, Kolkata
   Presenters:
   1. Dr. Subrata Pahari, PGT NRSMCH: **"Anteromedial Parameniscal Cyst in Secondary Knee Osteoarthritis: A 6-month Follow-up in a Patient with Rheumatoid Arthritis"**
   2. Dr. AnoovabSaha, PGT, RGKMCH: **"An unusual and rare case of van der knaap disease: a rehabilitation perspective."**
   3. Dr. Aleesha Shajahan,PGT NRSMCH**: "Delayed- Onset Hemi-dystonia Following Early Stroke in A Case of ICTC Positive Patient"**

3. **PGT Award session: (6+2 mins): 8:50am - 10.00 am**
   Chairpersons:
   Prof. (Dr.) Jayanta Roy, HOD, Dept. of PMR, CMC, Kolkata
   Prof. (Dr.) Dilip Kumar Khatua, HOD, Dept. of PMR, BSMC, Bankura
   Dr. Jayanta Saha, Senior Specialist Medical Officer, SNPH, Kolkata
   Presenters:
   1. Dr Sanjana Prakash Deshmukh, PGT,SNPH: "**A comparative study between ultrasound guided corticosteroid injection and ultrasound therapy in addition to conservative treatment in management of medial epicondylitis.**
   2. Dr Zainul Abidheen, PGT, IPGMER: "**Comparative study between anatomical landmark versus USG guided cluneal nerve block in case of low back pain due to cluneal nerve entrapment**."
   3. Dr. Bhaskar Mazumdar, PGT, IPGMER: "**Efficacy of electromyography biofeedback in management of partial anterior cruciate ligament tear in comparison to conservative management alone: a randomized controlled trial."**
   4. Dr. Surya Sobhan Kundu, PGT, IPGMER: **"Efficacy of botulinum toxin-a injection for upper limb dystonia in dystonic cerebral palsy patients"**
   5. Dr Ankit Sarkar, PGT RGKMCH: **"Comparison of duloxetine and clonazepam on quality of sleep and pain in chronic low back pain."**
   6. Dr. Basudeb Gorai, PGT, IPGMER: **"Effectiveness of USG guided bilateral pudendal nerve block with 6% phenol in case of detrussor sphincter dyssynergia due to traumatic spinal cord injury."**
   7. Dr. Souvik Mandal, PGT, IPGMER: **"Comparative study of efficacy between phenol chemoneurolysis vs botulinum toxin motor point block in post stroke upper limb spasticity."**
   8. Dr Soumya Dutta, PGT, IPGMER: **"Comparative Efficacy Between Conventional Versus Pulsed Radio Frequency Ablation in Glenohumeral Osteoarthritis."**

4. Inauguration: 10: 00 am - 10:30 am

5. Faculty Session: Rheumatology Rehabilitation: 10.30 am – 11.00am

(Sponsored by IPCA)

Chairpersons:
Dr. M. M. Biswas, Senior Consultant Physiatrist, Ex Senior DNB Faculty, SNPH, Kolkata
Dr. Mouli Madhab Ghatak, Consultant Physiatrist, Director, MRC, Kolkata.
Dr Premesh K. Sarkar, Consultant Physiatrist, Centre for Medical Rehabilitation, Kolkata

Speakers:

1. Prof. (Dr.) Parasar Ghosh, HOD, Dept. of Rheumatology, IPGME & R, Kolkata: **"JAK inhibitors in AS" (15 mins)**
2. Prof. (Dr.) Pankaj Kumar Mandal, HOD, Dept. of PMR, RGKMC, Kolkata:"**Difficult-to-Treat Rheumatoid Arthritis." (15 mins)**

6. Faculty Session : Neuro-rehabilitation- I (Movement Disorders): 11.00 am – 11:30 am

Chairpersons:
Prof. (Dr.) Rajesh Pramanik, HOD, Dept of PMR, IPGME& R, Kolkata
Dr. Abhishek Biswas, Former Director, NILD, Kolkata;
Dr. Amalesh Basak, Associate Professor, Dept. of PMR, IPGME & R, Kolkata

Speakers:

1. Dr. Tanvir Ahmed, Assistant Professor, Dept. of PMR, IPGME & R, Kolkata: "**Clinical Approach to Movement Disorders."** (13+2 mins)
2. Dr. Pranesh Mondal, Tutor, Dept. of PMR, IPGME & R, Kolkata: **" Physiatric Intervention of Movement Disorder"** (13+2 mins)

7. Tea Break: 11:30 am-12:00 noon

Parallel Poster Presentation: 11:30 onwards

Presenters:

1. Dr. Prasenjit Ghata, PGT, RGKMCH: **"Effects of genicular nerve block on pain and general health in advanced Osteoarthritis Knee."**
2. Dr. Ayan Baur, PGT, RGKMCH: **"Comparative study to assess the efficacy of ultrasound-guided versus blind corticosteroid injection for carpal tunnel syndrome."**
3. Dr. Soumen Kumar Biswas, PGT, SNPH: **"A case of atypical hereditary motor sensory neuropathy with principal of rehabilitation management."**

   Dr Menhaj Ahmed, PGT, RGKMCH: "**Steroid-induced avascular necrosis of the wrist in a young adult with autoimmune hemolytic anemia: A Case report**."
4. Dr. Poulami Ghosh, PGT, RGKMCH: **"Ganglion cyst in the medial collateral ligament of the knee in a known case of osteoarthritis: a rare Case report."**
5. Dr. SheezanPerwez, **PGT PMR ,IPGMER: "Blount's Disease: A Rickets Mimicker"**
6. Dr. Harivignesh, **PGT PMR ,IPGMER**: "**A Case of Acute Febrile Illness with Atypical Low Back Pain."**
7. Dr. NibeditaMalik, PGT, NRSMC&H: **"Multimodal Pain Management For Functional Restoration in A Bedridden 28-Years-Old Female with Peripheral Spondyloarthritis**."
8. **Dr Laipharakpam Ishwarlal Singh, PGT PMR, IPGMER, "A rare case of unilateral recurrent facial nerve palsy and rehabilitation outcome* ".**
9. Dr Abhirup Sen, **PGT PMR ,IPGMER, "Progressive Cognitive Decline with Ataxia and Movement Disorder-Unveiling the Mystery of Neurodegeneration andcalcification"**

8. Faculty Session : Neuro- Rehabilitation II: 12.00noon – 12:30pm

Chairpersons:

Prof. (Dr.) Swapan Kumar Mishra, HOD, Dept. of PMR, CNMC, Kolkata

Dr. Mausumi Sen, Associate Professor, Dept. of PMR, CNMC, Kolkata,

Dr. Koustubh Chakraborty, Consultant Physiatrist, Peerless Hospital.

Speakers:

1. Dr Madhusree Sengupta, Consultant Physiatrist, R N Tagore Hospital: **"Achieving Spasticity Treatment By Establishing Early Intervention and Rehab- "ASTAR"** (13+2 mins)
2. Dr. Ambar Konar, Consultant Rehab Physician, Rehabana, Kolkata: "**Low-cost sensor-based balance board training system: trial for breaking the barrier of cost in neurorehabilitation in India**" (13+2 mins)

9. Sponsored Session : Neuropathic Pain Management: 12: 30pm -01.00 pm

(Sponsored by INTAS)

Chairpersons:

Prof. (Dr.) Asoke Kumar Middya, HOD, Dept. of PMR, Midnapore Medical College, Midnapore

Dr Dibyendu Das, Associate Professor, Dept. of PMR, Burdwan Medical College, Kolkata

Dr Saumen Kumar De, Associate Professor, Dept. of PMR, NRSMC, Kolkata

Speakers:

1. Dr Sandipan Hazra, Assistant Professor, Dept of PMR, NRS MCH: **"Neuropathic Pain : Assessment & Management- A Pathophysiological Approach"** **(12+2 mins)**
2. Dr Raktim Swarnakar, SR, RGKMCH: **"A cross-sectional observational study to evaluate bone mineral densities by quantitative ultrasound in persons with chronic low back pain**" **(10+2 mins)**

10. Session : Locomotor Disability: 01.00pm -1:15 pm

Chairpersons:

Prof. (Dr) Firdaus Kamal, Professor, IPGME & R, Kolkata

Dr Chirasree Bhattacharya, Senior Specialist Medical Officer, SNPH, Kolkata

Dr KeshabMondal, Assistant Professor, Dept. of PMR, NRS Medical College, Kolkata

Speaker:

Dr Sudip Dan, Assistant Professor, Midnapore Medical College: "**Study of pattern of pediatric locomotor disability in a Medical College Hospital in Eastern India"** (13+2 mins)

11. Medical Ethics and Education: 1.15 pm - 1: 30pm

Chairpersons:

Dr. Tapan Kumar Pal, Senior Consultant Physiatrist, IPGME & R, Kolkata

Dr. Pradip Kumar Mallick, Associate Professor, Dept. of PMR, BSMC, Bankura

Dr Prabir Mandal, Senior Medical Officer, M.R Bangur Super Speciality Hospital

Speaker:

Dr. Arupratan Ghosh, Assistant Professor, Dept. of PMR, Calcutta Medical College (15mins)

12. Lunch 1:30pm- 2:00 pm

13. Healing Horizons: Exploring Therapeutic Landscapes:

A. Eco rehabilitation: Evidence and best practices 2:00pm - 3:00 pm

B. Exploring environment and Rehabilitation: Challenges and Sustainability 3:00pm - 4:30 pm

14. Tea Break: 4:30 pm – 5.00 pm

15. INTER COLLEGE PMR PGT QUIZ: 5.00 pm - 6:00 pm

QUIZ MASTER: Dr Nabarun Gupta, Tutor PMR, College Of Medicine & Sagore Dutta Hospital

15. GB meeting: 6.00 pm – 6.45 pm

16. Cultural program: 6.45 pm onwards

17. Dinner: 7.30 onwards ...

Abstracts

PGT PEARL OF CASES

TITLE: **ANTEROMEDIAL PARAMENISCAL CYST IN SECONDARY KNEE OSTEOARTHRITIS: A 6-MONTH FOLLOW-UP IN A PATIENT WITH RHEUMATOID ARTHRITIS**

Oral Presentation
Presenting author: Dr. Subrata Pahari[1]
Co-authors: Dr. Partha Pratim Das[2], Dr. Saumen Kumar De[3], Dr. Keshab Mondal[4], Dr. Sandipan Hazra[5], Dr. Pranabananda Goswami[6]
Post Graduate Trainee[1], Professor & HOD[2], Associate Professor[3], Assistant Professor[4], Assistant Professor[5], DMRD,MD, Chief Consultant Radiologist[6]
Dept. of Physical Medicine and Rehabilitation, N.R.S. Medical College & Hospital, Kolkata[1,2,3,4,5], Pulse Diagnostics, Shyambazar, Kolkata[6]
Email- subratapahari8@gmail.com ; Phone number: 9734121495

ABSTRACT

Introduction: Parameniscal cysts are rare, fluid-filled lesions often associated with meniscal tears, with an estimated prevalence of 1–8% in individuals presenting with knee disorders. These cysts typically arise due to meniscal degeneration or trauma, resulting in the extrusion of synovial fluid into the perimeniscal space. In rheumatoid arthritis (RA), chronic inflammation and joint degeneration increase the risk of meniscal injuries and secondary cyst formation.

Case Presentation: A 50-year-old female with a 5-year history of RA presented with a 1-year history of anteromedial swelling of the left knee following a trivial trauma. The swelling, approximately 3 × 3 cm, was painless at rest but associated with activity-induced discomfort, particularly during squatting, stair climbing, and cross-legged sitting. On examination, the swelling fluctuated in size with knee flexion and extension, was mildly tender, mixed in consistency, non-transilluminant, and free from signs of infection or skin changes. Routine laboratory investigations were normal. Ultrasound revealed a 3 × 2.9 × 1.3 cm septated cystic lesion extending into the intra-articular compartment. MRI confirmed the diagnosis of a medial parameniscal cyst along with a grade 3 medial meniscal tear and medial collateral ligament tear.

Management: Considering the patient's reluctance to undergo surgical excision and the challenging location of the cyst for arthroscopic removal, a non-surgical approach was adopted. The cyst was aspirated under imaging guidance, followed by an intra-articular steroid injection. Conservative measures, including physiotherapy and rehabilitation, were implemented to restore knee function.

Conclusion: At the 6-month follow-up, the patient demonstrated significant clinical improvement with resolution of swelling, pain reduction, and restoration of functional mobility without recurrence. This case highlights the efficacy of conservative management as a viable alternative for parameniscal cysts, particularly in RA patients where surgical options may pose additional risks.

Clinical Discussion: Parameniscal cysts, though uncommon, should be considered in patients presenting with localized knee swelling, particularly in the context of meniscal injuries. MRI remains the investigation of choice, providing detailed insights into the lesion's size, location, and associated pathology. This report underscores the importance of individualized, patient-centered treatment plans and contributes to the growing body of evidence supporting conservative management as an effective option in select cases.

TITLE: **AN UNUSUAL AND RARE CASE OF VAN DER KNAAP DISEASE: A REHABILITATION PERSPECTIVE**

Presenting author: Dr.Anoovab Saha[1]
Co-authors: Dr. Raktim Swarnakar[2] , Dr. Soumyadipta Ghosh[3] , Dr. Pankaj Kumar Mandal[4] Post Graduate Trainee[1] , Senior Resident[2] , Assistant Professor[3] , Professor & HOD[4] Dept. of Physical Medicine and Rehabilitation, R. G. Kar Medical College & Hospital, Kolkata[1, 2, 3, 4]
Email: anoovab.saha96@gmail.com; Phone number: 9734343014

ABSTRACT

Introduction: Van der Knaap disease, a rare autosomal recessive disorder, disrupts astrocyte function, causing white matter abnormalities. Common in consanguineous groups like India's Agarwal community, it manifests as

macrocephaly, motor and cognitive decline. This report presents a unique case and its rehabilitation perspective.

Case Presentation: A 31-year-old male from a non-consanguineous Hindu family in West Bengal presented with chronic low back pain and bedridden status. Developmentally normal until 2.5 years, he experienced progressive macrocephaly, seizures at 7 years, and motor/cognitive decline by 13, leading to school discontinuation. Neurological evaluation revealed confusion, slurred speech, spasticity, and limb weakness (2/5 power). MRI confirmed cerebral volume loss, subcortical cysts, and white matter changes, diagnosing Van der Knaap disease.

Treatment included sodium valproate, baclofen, and clonazepam. Rehabilitation emphasized strengthening, balance training, speech therapy, and caregiver education. After three months, he showed improved trunk stability, upper limb strength, and sitting ability, progressing to wheelchair mobility training.

Discussion: The presented case highlights Van der Knaap disease in a non-consanguineous patient, demonstrating how rehabilitation can reverse motor deficits, improve quality of life, and challenge its strictly degenerative nature.

Conclusion: This case underscores functional improvement through rehabilitation in Van der Knaap disease, urging further research.

TITLE: **DELAYED- ONSET HEMIDYSTONIA FOLLOWING EARLY STROKE IN A CASE OF ICTC POSITIVE PATIENT**

Presenting author: Dr. Aleesha Shajahan
Co-authors: Dr. Partha Pratim Das, Dr Saumen Kumar De, Dr. Keshab Mondal, Dr. Sandipan Hazra
Institute: NRS Medical College & Hospital, Kolkata
Email: shajahanaleesha@gmail.com
Phone number: 8606707510

ABSTRACT

Introduction: Post-stroke movement disorders are one of the commonest causes of secondary movement disorders. Hemidystonia is a rare motor disorder and is defined as dystonia restricted to one side of the body. It is traditionally believed to result from a lesion in the contralateral hemisphere, often from basal ganglia lesions. This case describes a 43-year-old HIV-positive female with progressive unilateral dystonia and pes cavus.

Case Presentation: The patient presented with a 10-year history of progressive dystonia in the left

foot, evolving into pes cavus and gait abnormalities. She had a history of HIV diagnosed 15 years ago and an episode of unconsciousness, possibly linked to the chronic basal ganglia infarct found on MRI. The patient was treated with Baclofen, Tizanidine along with Trihexyphenydyl and showed a decrease in her symptoms. Diagnostic nerve blocks to the tibial and peroneal nerve blocks provided partial relief and hence botulinum toxin was given which showed improvement. The patient is currently under follow up for 3- months with pharmacological and rehabilitative measures.

Discussion: Hemidystonia arises from sustained or intermittent muscle contractions affecting one side of the body, commonly due to basal ganglia lesions. The unique feature of this case is the unilateral dystonia localized to the right lower limb, which progressed to pes cavus over time. In this case, the patient's dystonia developed three years post a suspected neurological event, with MRI confirming a chronic basal ganglia infarct. Delayed-onset dystonia often results from neuroplastic changes and aberrant neuronal sprouting following a static brain lesion. Management with botulinum toxin provided symptomatic relief. The response to diagnostic nerve blocks and botulinum toxin injections underscores the importance of targeting specific muscles to reduce hyperactivity and improve function. Differentiating hemidystonia from conditions like hemichorea or hemiballism, which exhibit faster, ballistic movements, remains essential for accurate diagnosis and treatment. This case highlights the need for thorough diagnostics, neuroimaging, and individualized treatment. A multidisciplinary approach and regular follow-up are vital for optimizing care.

Conclusion: Hemidystonia is rare and complex but targeted interventions like botulinium toxin can be effective for functional improvement. On a 3- month follow up, the patient demonstrated sustained improvement in symptoms.

PGT PLATFORM PRESENTATION

TITLE: **A COMPARATIVE STUDY BETWEEN ULTRASOUND GUIDED CORTICOSTEROID INJECTION AND ULTRASOUND THERAPY IN ADDITION TO CONSERVATIVE TREATMENT IN MANAGEMENT OF MEDIAL EPICONDYLITIS.**

Presenting Author: Dr Sanjana Prakash Deshmukh (PGT)
Co-Author: Dr. Jayanta Saha, Senior Consultant, SNPH, Kolkata.
Institute: Dept. of PMR, Sambhunath Pandit Hospital, Kolkata.
Contact : 9822970616, Email: sanjanadeshmukh121097@gmail.com

ABSTRACT

Introduction: Medial epicondylitis, also called as Golfer's elbow is clinically diagnosed condition with 1% prevalence in general and 3% in working population. Main principle of treatment should be oriented towards reducing pain, restoration of mobility, grip strength improvement and controlling further worsening of condition, considering availability and affordability for the patient. Corticosteriod injection and ultrasound therapy can be given along with physiotherapy and use of orthotic band.

Aim & Objectives: To compare efficacyof ultrasound guided corticosteroid injection against ultrasound therapy in addition to physiotherapy and use of orthotic band by assessing functional improvement and pain relief in management of medial epicondylitis.

Material and Methods:Parallel group, single blind, randomized control trial done with total 30 patients attending PMR OPD in SNPH Kolkata, including subjects clinically confirmed with medial epicondylitis,, between 20-60 years age, both sexes, with VAS >6 and not controlled by conservative treatment, excludingprevious history of trauma, bony deformity, local infectionor uncontrolled diabetes or hypertension.Randomization was done into two groups, 15 patients in each. First group received corticosteriod injection and second group received ultrasound therapy for 4 weeks. Physiotherapy along with use of orthotic band was advised IN both groups. Parameters were Visual Analog Scale (VAS) for pain and Patient Related Tennis Elbow Evaluation (PRTEE) scale for pain and functional assessment;measured at pre-intervention,4, 8and 12weeks of post-intervention., Data was summarized by mean and standard deviation, analysed by paired t-test for intragroup and independent samplet-test for intergroup comparison using Graphpad software. Ethical clearancewas taken from Institutional Ethics Committee and Informed consent was signed before each procedure.

Results: There is statistically significant improvement($p<0.05$) in PRTEE and VAS score measured after 4, 8 and 12 weeks in both groups. At 4 weeks, more significant improvement seen in corticosteroid group whereas at 12 weeks corticosteroid group was slightly significant than UST group.

GROUP	Parameters	Pre-procedure	After 4 weeks	After 8 weeks	After 12 weeks
Corticosteroid injection	PRTEE	83.80±8.26	63.27±9.11	50.40±10.14	45.33±9.71
	VAS	8.13±0.83	5.60±1.06	3.87±0.83	3.00±0.76
Ultrasound therapy	PRTEE	80.80±8.20	72.13±7.87	59.73±7.27	52.87±6.66
	VAS	8.00±0.85	7.00±0..85	4.67±0.62	3.67±0.90

Conclusion:BothUltrasound guided corticosteroid injection and ultrasound therapy showed improvement in pain and function when combined with conservative treatment.But corticosteroid group showed better and faster improvement as compared to ultrasound therapy.

TITLE: **COMPARATIVE STUDY BETWEEN ANATOMICAL LANDMARK VERSUS USG GUIDED CLUNEAL NERVE BLOCK IN CASE OF LOW BACK PAIN DUE TO CLUNEAL NERVE ENTRAPMENT**

Presenting Author : Dr Zainul Abidheen A (PGT)
Co-Author : Prof Dr Firdaus Kamal
Institute : Dept of PM&R, IPGME&R and SSKM Hospital, Kolkata.
Contact : 9544183670
Email : zainuareekara@gmail.com

ABSTRACT

Introduction: Cluneal Nerve Entrapment is one of the cause of Low Back Pain, which is characterised by a triad of pain, tender point over iliac crest or caudal to PSIS and relief with local anaesthetic injections.

Aims & Objectives: To determine the effect of USG guided Cluneal Nerve Block in low back pain comparing with Anatomical Landmark injection.

Method: Parallel group, open labelled, randomized control trail done with 42 patients selected from PMR OPD in IPGME&R and SSKMH with Cluneal Nerve Entrapment, VAS > 5 and excluding patients with facet or SI joint pathology, inflammatory and lumbar radicular pain or any contraindication to procedure. Randomized into two groups –Cluneal Nerve Block done under USG guidance and anatomical landmark injection. Parameters were Visual Analog Scale (VAS) for pain and Oswestry Disability Index (ODI) for disability taken at pre-intervention, 10 minutes, 2 and 4 weeks post-intervention. Excluding the dropouts(n=3), Data summarized by mean and standard deviation, analysed by ANOVA for intragroup comparison and unpaired T-test for intergroup comparison using SFSS software.

Results: VAS of USG guided block group decreased from 7.03+0.7 to 3.08+0.84 whereas anatomical landmark injection decreased from 6.97+0.74 to 3.58+0.97. ODI of USG guided block group decreased from 33.22+1.53 to

25.92+1.13 whereas that of anatomical landmark injection decreased from 33.47+1.4 to 23.83+1.76. Hence, USG guided block group showed statistically significant improvement in Pain control and disability improvement than anatomical landmark group.

Conclusion: Cluneal Nerve Block provides pain relief and reduction in disability in Low Back Pain due to Cluneal Nerve Entrapment refractory to conservative management. The USG guided block provides better pain relief than that of anatomical landmark injection.

TITLE: **EFFICACY OF ELECTROMYOGRAPHY BIOFEEDBACK IN MANAGEMENT OF PARTIAL ANTERIOR CRUCIATE LIGAMENT TEAR IN COMPARISON TO CONSERVATIVE MANAGEMENT ALONE: A RANDOMIZED CONTROLLED TRIAL**

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ABSTRACT

Introduction: Conservative treatment with rehabilitative exercises is the primary treatment for partial ACL tears, outcomes can be variable, and long-term pain relief is not guaranteed. Electromyography biofeedback (EMG-BFB) shows promise as a non-surgical option. It has the potential to enhance muscle strength, improve knee stability, and facilitate a return to pre-injury activity levels.

Aim & Objective: Compare the effects of conservative treatment alone with conservative treatment combined with electromyography biofeedback on the isokinetic parameters of the quadriceps femoris muscles in patients with partial anterior cruciate ligament tears.

Method: A parallel-group, open-label, randomized controlled trial was conducted involving 10 patients attending the Physical Medicine and Rehabilitation (PMR) Outpatient Department (OPD) at IPGME&R SSKM Hospital over 3 months. Inclusion criteria included: age between 18 and 40 years, mild to moderate pain (VAS ≥ 5) on knee extension not controlled by oral pharmacological medications, MRI-confirmed ACL tear, and willingness to opt for non-surgical management. Exclusion criteria included: complete ACL tear, multi-ligamentous knee injury, presence of associated meniscal or chondral injury confirmed by MRI, severe motor weakness of the knee joint (power < 3/5), and other obvious associated causes of knee pain. Patients were randomized into two groups: Conservative Management and additionalEMG Biofeedback. The first group received conservative treatment with rehabilitative exercises and the second group received additional EMG biofeedback training for 4 weeks. The primary outcome measures were Peak Torque to Body Weight ratio (PT/BW) and the Classic H/Q ratio of quadriceps femoris muscles, and the secondary outcome measure was VAS scoring for pain. These parameters were measured pre-procedure, at 4 weeks, and at 8 weeks post-procedure. Data were summarized using mean and standard deviation. Statistical analysis was performed using Student's independent samples t-test for between-group comparisons and paired t-tests for pre- and post-procedure comparisons within each group. Data analysis was conducted using GraphPad software.

Ethical clearance was obtained from the institutional Ethics Committee, and informed consent was obtained from all participants prior to any procedure.

Result: Statistically significant ($p<0.05$) improvement of PT/BW, Classic H/Q ratio and VAS from baseline are seen in both groups.

Groups	Parameters	Pre-Procedure	4 weeks	8 weeks
Conservative management	PT/BW	5.58±0.45	5.69±0.56	5.87±0.45
	Classic H/Q	47%±3%	50%±2%	52%±1%
	VAS	7.50±0.97	7.00±0.67	6.00±0.66
Additional EMG biofeedback	PT/BW	5.56±0.52	6.04±0.68	6.49±0.57
	Classic H/Q	48%±2%	51%±3%	55%±4%
	VAS	7.80±0.92	6.50±0.71	5.10±0.88

For all parameters, EMG biofeedback training with conservative treatment shows statistically more significant improvement than Conservative treatment alone at 8 weeks ($p<0.05$).

Conclusion: In comparison to conservative treatment alone, the addition of EMG biofeedback training demonstrates greater effectiveness in improving isokinetic parameters and reducing pain in long-term follow-up.

TITLE: **EFFICACY OF BOTULINUM TOXIN-A INJECTION FOR UPPER LIMB DYSTONIA IN DYSTONIC CEREBRAL PALSY PATIENTS**

Presenting Author: Dr. Surya Sobhan Kundu (PGT)
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ABSTRACT

Introduction: Cerebral palsy describes a group of permanent disorders of development of movement and posture, which are attributed to non-progressive damages that occurred in the developing foetal/infant brain. Dystonia is one of the movement disorders seen in them. It is co-contraction of agonist and antagonist muscles leading to an abnormal posture of one or more parts of the body. The damage to the brain is permanent and cannot be cured but the consequences can be minimized. Botulinum Toxin-A can be injected into targeted muscles to treat focal dystonia in children with cerebral palsy. Aims & Objectives: To look for the impact of Botulinum Toxin-A injection on upper limb function of dystonic patients.

Method: A case series of four CP patients affected by upper limb dystonia. They belonged to 4-12 years age with Hypertonia Assessment Tool score ≥1 for Dystonia, Burke-Fahn-Marsden dystonia rating scale score for arms >2. Dystonic muscles were identified through detailed physical examination. If they showed reduction in dystonic upper limb movements after trial block using Bupivacaine, Botulinum Toxin-A was injected in the dystonic muscles after a gap of 24hrs. Then, they were taught the following exercises: AROM & PROM exercises, stretching exercises, pulley exercise, bottle cap opening and closing manipulation techniques, peg board exercise.

Results: Following one session of Botulinum Toxin-A injection and regular exercises for 3 weeks: Patient 1 (9yrs, Female, 25kg): BMFDRS Score improved (4→2), MACS improved (IV→III). Patient 2 (5yrs, Female, 26kg): BMFDRS Score improved (4→2), MACS improved (III→II). Patient 3 (4yrs, Male, 18kg): BMFDRS Score improved (3→2), MACS improved (IV→III). Patient 4 (12yrs, Female, 36kg): BMFDRS Score improved (5→3), MACS improved (V→IV).

Conclusion: Results support the use of Botulinum Toxin-A as an effective treatment for upper extremity dystonia in cerebral palsy. Trials with larger sample size are needed to confirm these results.

TITLE: **COMPARISON OF DULOXETINE AND CLONAZEPAM ONQUALITY OF SLEEP AND PAIN IN CHRONIC LOW BACK PAIN**

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ABSTRACT

Introduction: Chronic low back pain (CLBP) impacts quality of life, often disrupting sleep and increasing pain. This study compared Duloxetine and Clonazepam on sleep quality and pain in CLBP.

Aims & Objectives: To compare Duloxetine and Clonazepam on sleep quality (by Pittsburgh Sleep Quality Index, PSQI) and pain (using McGill Pain Questionnaire-short form, MPQ-SF) in CLBP over 6 weeks.

Methods: In this study, 64 patients with CLBP, were randomly divided into two groups. Thirty-two patients were assigned to each group: Duloxetine and Clonazepam. The PSQI and MPQ-SF scores were recorded at baseline and at 6th week. The within-groups changes in PSQI and MPQ-SFscores between baseline and week 6 were analyzed using Wilcoxon Signed Rank test. PSQI and MPQ-SFscores at week 6 were compared between-the-groups using Wilcoxon Rank Sum test.

Results: At baseline, the median PSQI and MPQ-SF scores were 11 (IQR: 8-12.25) and 11 (IQR: 9-12) in Duloxetine group, and 10 (IQR: 9-11) and 10.5 (IQR: 9-13) in Clonazepam group. Between-group comparison showed no significant difference [P=0.80 (PSQI); P=0.60 (MPQ-SF)].

At week 6, the median PSQI and MPQ-SF scores were 8 (IQR: 6-10) and 7 (IQR: 6-8) for Duloxetine, and 7 (IQR: 6-8) and 7.5 (IQR: 5.75-9) for Clonazepam. No significant difference was observed [P=0.10 (PSQI); P=0.74 (MPQ-SF)].

Conclusion: Both of the Duloxetine and Clonazepam group improved sleep quality and pain intensity at 6th week but no significant difference is seen between them in CLBP

TITLE: **EFFECTIVENESS OF USG GUIDED BILATERAL PUDENDAL NERVE BLOCK WITH 6% PHENOL IN CASE OF DETRUSSOR SPHINCTRE DYSSYNERGIA DUE TO TRAUMATIC SPINAL CORD INJURY**

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ABSTRACT

Introduction:Detrusor sphincter dyssynergia (DSD) is the urodynamic description of bladder outlet obstruction from detrusor muscle contraction with concomitant involuntary urethral sphincter activation. It is diagnosed most during the voiding phase of urodynamic studies using EMG recordings and voiding cystourethrograms, although urethral pressure monitoring could also potentially be used. DSD can be sub-classified as either continuous or intermittent, although adoption of this terminology is not widespread. There are few validated oral pharmacologic treatment options for this condition, but USG guided bilateral pudendal nerve block with 6% phenol has better outcome in detrusor sphincter dyssynergia in case of traumatic spinal cord injury.

Aims and objectives: In this study we would try to compare outcomes between patients treated with conservative therapy only Vs USG guided bilateral pudendal nerve block in case of detrusor sphincter dyssynergia due to traumatic spinal cord injury as add on.

Method:Parallel group, open label, Randomized controlled trial done with 50 patients selected from OPD and IPD Neuro-rehab ward in IPGMER and SSKMH with detrusor sphincter dyssynergiadue to traumatic spinal cord injuryexcluding urinary Tract Infection, painful bladder syndrome, non-traumatic SCI, SCI in AIS stage C, D, Indwelling catheter, bladder stone,BHP or Prostatic cancer, bleeding diathesis. Randomized in two groups-conservative treatment vs Usg guided pudendal nerve block as add on therapy. Parameters were Overactive Bladder Symptom Score (OABSS), Maximum cystometric capacity (MCC), Post-void residual urine volume (PVR), Frequency of Incontinence. The assessment was done at baseline, 2 weeks, 3 months following the intervention. Excluding dropouts, data is summarized by mean and standard deviation, analysed by ANOVA for intragroup and unpaired T-test for intergroup comparison using SFSS software.

Results: Group received pudendal nerve block as add on therapy has decreased OABSS, decreased maximum cystometric capacity (MCC),decreased post-void residual urine volume(PVR), decreased Frequency of Incontinence than who received conservative treatment.

Conclusion:Usg guided bilateral pudendal nerve block as add on therapy has better outcome than conservative management in detrusor sphincter dyssynergiadue to traumatic spinal cord injury.

TITLE: **COMPARATIVE STUDY OF EFFICACY BETWEEN PHENOL CHEMONEUROLYSIS VS BOTULINUM TOXIN MOTOR POINT BLOCK IN POST STROKE UPPER LIMB SPASTICITY.**

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ABSTRACT

Introduction: The incidence of post stroke spasticity in chronic stroke 17-42.6% in developing country like India. A possible limitation to use ofbotulinum toxin is its cost,so comparing and knowing its efficacy with most accessible technique is of great clinical relevance.

Aims and Objectives: To compare the improvement of upper limb spasticity,ROM and hand function in post stroke patient by using phenol and botulinum toxin.

Method:Parallel group,single blind,randomised control trial done with 20 patients selected from PMR OPD in

IPGME&R and SSKM Hospital with post stroke upper limb spasticity >1+ (18-65 age).Patients were randomised into 2 groups.Parameters to be studied are MAS scale,ROM wrist and fingers and Modified Frenchay scale at pre intervention,post intervention 24 hrs,2 wk and 12 wk.Fisher's exact test will be applied for intergroup comparison.

Results: Decrease in spasticity in both groups is almost same.ROM is 10 degree more in patients who got phenol than botox.Modified Frenchay Scale has better outcome in phenol chemoneurolysis patients.

Conclusion:Hand function and ROM improvement is superior in case of phenol chemoneurolysis than botulinum toxin motor point block.

TITLE: **COMPARATIVE EFFICACY BETWEEN CONVENTIONAL VERSUS PULSED RADIO FREQUENCY ABLATION IN GLENOHUMERAL OSTEOARTHRITIS.**

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ABSTRACT

Introduction: Osteoarthritis is associated with age-related increase in cartilage catabolism. The catabolic activity plays a key role in the increased susceptibility to Osteoarthritis. Progressive, sustained, activity related pain felt deep in the joint and joint line tenderness. On palpation-crepitus and pain during joint movements as well as reduced range of passive motion specially external rotation. RFA is effective, time saving technique with satisfactory results in controlling case of chronic shoulder pain, particularly targeting Supra scapular NV, due to its extensive nerve supply of the shoulder, and also targeting the articular branches of Axillary NV.

Aims & Objectives: To determine the effect of Conventional RFA by comparing with Pulse RFA.

Method: Parallel group, single blind, randomized control trail done with 78 patients selected from PMR OPD in IPGME&R and SSKMH with Glenohumeral osteoarthritis, VAS > 5 and excluding patients with acute inflammatory condition or any contraindication to procedure. Randomized into two groups – Conventional RFA and Pulsed RFA. Parameters were Visual Analog Scale (VAS) for pain and Shoulder Pain and Disability Index (SPADI) for disability taken at pre-intervention, 0, 4,8 and 12-weeks post-intervention. Excluding the dropouts(n=3), Data summarized by mean and standard deviation, analysed by ANOVA for intragroup comparison and unpaired T-test for intergroup comparison using MedCalc version 19.6 software.

Results: VAS of Conventional RFA group decreased from 7.03+0.7 to 3.08+0.84 whereas Pulse RFA group decreased from 6.97+0.74 to 3.58+0.97. SPADI of Conventional RFA decreased from 63.22+1.53 to 23.92+1.13 whereas that of Pulses RFA decreased from 63.47+1.4 to 25.83+1.76. Hence, Conventional RFA group showed statistically significant improvement in Pain control and disability improvement than Pulse RFA group.

Conclusion:Radiofreqency ablation provides pain relief and reduction in disability in Glenohumeral Osteoarthritis to conservative management. The use of Conventional RFA provides better pain relief than that of Pulse RFA.

POSTER PRESENTATION

TITLE: **EFFECTS OF GENICULAR NERVE BLOCK ON PAIN AND GENERAL HEALTH IN ADVANCED OSTEOARTHRITIS KNEE**

Award Poster Presentation

Presenting author: Dr. Prasenjit Ghata[1]
Co-authors:Dr. Raktim Swarnakar[2], Dr. Anoovab Saha[3], Dr. Ankit Sarkar[4], Dr. Soumyadipta Ghosh[5], Dr. Pankaj Kumar Mandal[6]
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ABSTRACT

Introduction:In osteoarthritis knee joint commonly affected. Pain and joint stiffness cause poor function and health. Genicular nerve block(GNB) can alleviate pain and improve knee function. This study evaluated GNB in osteoarthritis patients with KL Grade 3 and 4. Pain intensity and general health were assessed using NRS and SF36.

Materials and method:Single arm pre post study with 14 participants. Ultrasound-guided GNB performed with triamcinolone, lidocaine, and saline. Evaluation at baseline, 4th week, and 12th week. Analysis by SPSS 16.0.

Results:Statistically significant improvement in pain intensity at end of 4th week [mean +_ SD, 06.14+_ 0.86, p value <.05] and at 12th week [mean +_ SD, 05.57+_ 01.22, p value <.05) compared with base line. Improvement in SF36 score at end of 4th week [mean +_ SD, 70.00+_ 11.09, p value <.05] and at 12th week [mean +_ SD,70.01+_ 10.71, p value <.05)] compared with base line. No adverse effects reported.

Discussion:Previous studies show pain improvement with GNB. This study confirms pain reduction and improved SF36 score.

Conclusion: US guided GNB is safe and effective for pain control and health improvement. Further research with long term observations needed.

TITLE: **A COMPARATIVE STUDY TO ASSESS THE EFFICACY OF ULTRASOUND-GUIDED VERSUS BLIND CORTICOSTEROID INJECTION FOR CARPAL TUNNEL SYNDROME**

Award Poster Presentation

Presenting author: Dr. Ayan Baur[1]
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ABSTRACT

Introduction: Carpal Tunnel Syndrome (CTS) is caused by median nerve compression, leading to ischemia, nerve damage, and functional impairment.

Aim: To compare and evaluate the efficacy of ultrasound-guided versus blind corticosteroid injection for the treatment of CTS.

Methods: This study at R.G.KAR MCH, Kolkata, included 52 CTS patients. One group received ultrasound-guided injections, and the other received blind injections. Outcomes were assessed at 2, 4, and 12 weeks.

Results: At week 2, there was no statistically significant differences and at week 4,there was minimal difference in SSS and FSS scores between the two groups. The USG group had scores of 3.37 (±0.6) and 3.36 (±0.47) at week 2, compared to 3.49 (±0.5) and 3.37 (±0.3) in the blind group. At week 4, the USG group scored 2.79 (±0.5) and 2.78 (±0.47), while the blind group scored 2.99 (±0.5) and 3.00 (±0.34). By week 12, the USG group showed improved outcomes with scores of 2.17 (±0.44) and 2.23 (±0.52), compared to 2.45 (±0.46) and 2.67 (±0.35) in the blind group.

Conclusion: Both ultrasound-guided and blind corticosteroid injection methods provide symptomatic relief in CTS patients. However, the ultrasound-guided approach is more effective in improving symptoms and functionality over the long term.

TITLE: **A CASE OF ATYPICAL HEREDITARY MOTOR SENSORY NEUROPATHY WITH PRINCIPAL OF REHABILITATION MANAGEMENT**

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ABSTRACT

Introduction: Hereditary motor and sensory neuropathy (HMSN), also known as Charcot-Marie-tooth disease (CMT1), is a group of genetically heterogeneous disorders characterised by progressive degeneration of peripheral

nerves, leading to motor and sensory dysfunction. It is one of the most common inherited neuromuscular disorders with a prevalence of 1 in 2500 individuals. HMSN causes muscle weakness as well as sensory deficits starting basically from the distal extremities.

Case report: We reported one case of distal weakness and numbness of the bilateral lower limb over the last 2 years and buckling of both knees during walking for the last 1 year with no history of upper limb weakness and excessive hip flexion, knee flexion with no heel strike while walking for which he came to OPD

Discussion: After a thorough examination and investigation, he was diagnosed as a probable case of HMSN with Foot drop.

He was prescribed ankle dorsiflexor strengthening exercise, stimulation of dorsiflexor and plantar flexion stopped dorsiflexion assisted ankle-foot-orthosis for the gait problem

Conclusion: Significant improvement in gait was clinically noticed in the subject after 4 weeks of follow-up and patient is still undergoing therapy.

TITLE: **STEROID-INDUCED AVASCULAR NECROSIS OF THE WRIST IN A YOUNG ADULT WITH AUTOIMMUNE HEMOLYTIC ANEMIA: ACASE REPORT**

Presenting Author: Dr Menhaj Ahmed(PGY2)

Co-authors Dr Poulami Ghosh(PGY2), Dr Ayan Baur(PGY2), Dr RaktimSwarnakar (SR), Dr Pankaj K. Mandal (Professor)

ABSTRACT

This case report describes a 22-year-old female with a history of autoimmune hemolytic anemia(AIHA) whopresentedwithpersistentrightwristpainandswellingforeightmonths. The patient had been receiving long-term, low-dose corticosteroid therapy since 2020 for AIHA. Imaging studies, including X-rays and MRI, revealed destructive changes in the carpal bones, raising suspicion for avascular necrosis (AVN), a known complication of chronic

Corticosteroid use. Based on the patient's clinical history and imaging findings, a diagnosis of steroid-induced AVN was established, despite the initial diagnostic challenge of differentiating it from inflammatory arthritis or infectious processes. A biopsy excluded granulomatous disease and malignancy, and routine blood investigations were unremarkable. Conservative management, including analgesics and range-of-motion exercises, provided some pain relief but had limited impact on wrist mobility. This case highlights the rarity of AVN affecting the wrist and emphasizes the importance of early diagnosis and intervention in patients receiving long-term corticosteroid therapy. Early imaging, particularly MRI, plays a crucial role in detecting AVN before irreversible joint damage occurs. Close monitoring and risk mitigation strategies are essential for patient son long-term corticosteroids to prevent complications such as AVN. This case underscores the need for heightened clinical suspicion and multidisciplinary management in patients with autoimmune conditions requiring steroid therapy.

TITLE: **GANGLION CYST IN THE MEDIAL COLLATERAL LIGAMENT OF THE KNEE IN A KNOWN CASE OF OSTEOARTHRITIS: A RARE CASE REPORT**

Award Poster Presentation

Presenting author: Dr. Poulami Ghosh[1]
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ABSTRACT

Introduction: Ganglion cysts are fluid-filled masses often found in joints or tendons, typically in the wrist, knee, or foot. Intra-articular knee cysts are rare, usually located in the cruciate ligaments. This case report describes an unusual ganglion cyst in the medial collateral ligament (MCL) of a patient with bilateral knee osteoarthritis.

Case Presentation:A 40-year-old female with bilateral knee osteoarthritis and hypothyroidism presented with a firm, non-tender swelling (4.5 × 4 cm) on the medial aspect of her right knee, first noticed in October 2024. The swelling had not changed in size, but the knee pain worsened since October. Clinical examination and ultrasonography diagnosed a ganglion cyst in the medial collateral ligament (MCL), confirmed by MRI. Blood tests were normal. The patient was treated with NSAIDs, physical therapy, and 10 sessions of ultrasound therapy (UST). Follow-up visits showed pain reduction and improved movement, though the swelling remained the same.

Discussion:Ganglion cysts in the MCL can cause pain and limited motion. Diagnosis was confirmed with ultrasonography and MRI. Conservative treatment with NSAIDs and physical therapy alleviated symptoms.

Conclusion:Ganglion cysts of the MCL are rare but should be considered in knee pain and swelling. Conservative management and advanced imaging are crucial for diagnosis, especially in osteoarthritis patients.

TITLE: **BLOUNT'S DISEASE: A RICKETS MIMICKER**

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ABSTRACT

Introduction: Blount's disease also known as tibia vara, is an acquired genu varus deformity in children caused by disrupted normal cartilage growth at the proximal medial metaphysis of the tibia. It develops due to excessive compressive forces on the medial aspect of the proximal tibial physis, leading to altered enchondral bone formation. Prevalence of Rickets globally isaround 46% as opposed to Blount's disease which is <1 %. Hence child with infantile genu varus is sometimes mistaken as Rickets.

Case presentation: A 3 year old boy presented with progressive bowing of both leg since 1 year of age. He was diagnosed as case of rickets by primary physician and treated with multiple doses of vitamin D3 without any improvement. He started walking without support at 1 year. He had been breast fed exclusively until 6 months and was on an age-appropriate non-vegetarian diet with adequate milk intake. The deformity was associated with neither muscular weakness, myalgia, nor failure to thrive. Clinical examination revealed severe short stature. Patient was overweight, without any hypothyroidism. His head circumference was normal with no frontal bossing; no widening of wrists or ankles, no prominent costochondral junction and no dental anomalies. Vit D3 level, S. Calium normal. Blood Alkaline Phosphatase was high and DXR revealed tibia vara along with beaking of the medial aspect of proximal tibial metaphysic. Langenskiold classification Stage 2

Discussion: Infantile Genu varus deformity is sometimes misdiagnosed as rickets without any improvement with Vit D3 supplementation. Hence meticulous history, examination and investigation should be done to consider other causes like Blount's disease.

Conclusion: Early diagnosis and management is essential so as to prevent progressive deformities of leg, short stature and premature osteoarthritis of the knees.

TITLE: **A CASE OF ACUTE FEBRILE ILLNESS WITH ATYPICAL LOW BACK PAIN**

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ABSTRACT

Introduction: In our day-to-day practices we mostly come across chronic low back pain. But there are some presents with acute low back pain and fever with chills and rigors whose management are challenging. Differential diagnosis includes infections and inflammatory conditions of lumbar spine.

Case: A 40-year-oldright-handed married male, working as a cattle farmer in Saudi Arabia with no known co-morbidities presented with high grade fever with chills and rigors and acute onset, progressive lower back pain for 3 months. Fever was high grade, associated with chills and rigors. Lower back pain was acute in onset and gradually progressive mechanical pattern without any radiation or Early morning stiffness, aggravated by fever spikes, at night time and didn't relieve by medications. He had a history of similar episode of illness 6months back when he was treated with medications. O/E Temp-103^{O}C to 104^{O}C. General examination were within normal limits, LBP VAS-8/10 MSK – tenderness present in lumbar spine region otherwise normal, CVS- sinus tachycardia(125/min) otherwise normal, RS, CNS – NAD. Provisional diagnosis was inflammatory conditions, TB spine, Pyogenic infections.

Investigations: CBC, Ur, Cr, LFT normal CRP- elevated Blood, urine, sputum culture- No growth, Widal test negative,

smear for MP,MF negative, MRI of LS spine, SI joints –Mild para-vertebral soft tissue edema, Focal Bone marrow edema. Rose Bengal Plate Test and Serum Agglutination test came out to be positive

Treatment: Fever responded only to intravenous 1g paracetamol thrice daily. We started with Doxycycline 100 mg BD and Amoxyclav 625mg TDS. But the patient didn't respond even after 2 weeks. After Rose Bengal test, we started on Inj.Streptomycin 1 gram intramuscularly OD. Following which symptoms gradually decreased. Fever subsided in 10 days and Low back pain decreased to VAS-4. Inj. Streptomycin continued for 3 weeks and Doxycycline continued for 12 weeks. Therapeutic exercises were started then he was pain-free after a period of 3 months.

Discussion: Brucellosis can affect any organ or tissue and has a clinical presentation that mimics many bacterial and viral infections. Although it may take time to obtain control of infection, overall prognosis is good if no complications develops. Hence early diagnosis and treatment is important in management.

Conclusion: Fever and Low Back Pain in patient who are in contact with domestic/wild animals could be due to Brucella infection. If this infection is detected early, with proper antibiotic therapy we can prevent spinal complications like granuloma, abscess and patient can return to routine life without any impairment.

TITLE: **MULTIMODAL PAIN MANAGEMENT FOR FUNCTIONAL RESTORATION IN A BEDRIDDEN 28-YEARS-OLD FEMALE WITH PERIPHERAL SPONDYLOARTHRITIS.**

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ABSTRACT

Introduction: Ankylosing spondylitis (AS) is an axial spondyloarthropathy with diverse manifestations, including radiographic sacroiliitis. It impacts patients physically and psychologically, with symptoms like enthesitis, acute anterior uveitis, and comorbidities such as IBD and psoriasis. Spinal osteoporosis and fractures are common, leading to reduced quality of life. Depression and anxiety are prevalent, and the disease burden increases over time. Early diagnosis and treatment are vital to prevent functional decline and improve patient outcomes.

Case Presentaion: A 28 year old female attended PM&R OPD of NRSMC&H in a bedridden state due to severe pain at her upper thigh (bilateral). She was unable to perform her day to day activities.So,her daily life was severely compromised. On history and examination it was shown that one episode of anterior uveitis, night pain, elevated CRP, radiologically asymmetric gradeII sacroilitis, HLAB27 Positive, absence of rheumatoid factor, subcutaneous nodule and other extraarticular features of RA. On examination restricted ROM, FABERE test positive. Patient was managed with subsequent intervention – Ultrasound guided intraarticular corticosteroid injection in bilateral hip joint followed by after 3 months C-ARM guided bilateral sacroiliac joint injection. Pre and post intervention period was uneventful. Patient was not denied non pharmacological management (rehabilitation).

Result: Post intervention Outcome was accessed in BASFI (10), BASDAI(0). On discharge she is able to perform daily activities.

Conclusion: Most frequently involved extraaxial joint in AS is hip joint and may cause considerable physical disability. So, multimodal pain management is safe and effective procedure in reduction of pain,improving mobility and ,decreasing disability – thus improving quality of life.

TITLE: **MELKERSSON-ROSENTHAL SYNDROME: A RARE CAUSE OF RECURRENT FACIAL NERVE PALSY AND REHABILITATION OUTCOME.**

Presenter: Dr Laipharakpam Ishwarlal Singh (PGT , PMR , IPGMER)
Guide : HOD & Prof. (Dr) Rajesh Pramanik (IPGMER) & Dr P Mondal ,Clinical Tutor(IPGMER),
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ABSTRACT

Introduction: Melkersson-Rosenthal syndrome (MRS) is a rare condition characterized by a triad of unilateral or bilateral recurrent facial oedema, facial paralysis, and fissured tongue. The complete presentation of the triad is rarely seen in most of patients (less than 20% with oligosymptomatic forms being more common).The underlying cause of this condition is still unknown, but some studies suggest a genetic factor. Being a chronic relapsing disease and due

to its rarity and the limited availability to follow-up care, MRS is likely not well known and therefore under diagnosed in lower-resource regions . We report a case of a female who presented to our PMR OPD and admitted in ward of IPGMER & SSKM Hospital ,Kolkata with the classical MRS triad.

Case Report : A case study of a 51 yrs old female patient presented with left sided recurrent facial weakness (4 episodes) with associated drooling of saliva ,slurred speech, swelling of lips , inability to close her eyes completely and loss of taste sensation for the last 11 yrs. After doing all the investigations and clinical examination findings she was diagnosed as a case of MRS. It was then confirmed by neurology department. She underwent a multidisciplinary rehabilitation program, including facial neuromuscular re-education, electrotherapy, and speech therapy. Pharmacological intervention with corticosteroids were also administered. Outcomes were assessed using the House-Brackmann grading system, VAS(Visual Analog Scale) for pain, and quality-of-life questionnaires.

Discussion: Patient showed significant improvement in facial muscle strength and symmetry, as reflected by improved House-Brackmann scores. Pain and orofacial edema reduced markedly , contributing to better quality of life. However, residual deficits, including mild synkinesis still persisted.

Conclusion: Rehabilitation plays a pivotal role in the management of MRS by improving functional outcomes. Early initiation of a comprehensive, individualized rehabilitation program can mitigate long-term complications and enhance quality of life.

TITLE: **PROGRESSIVE COGNITIVE DECLINE WITH ATAXIA AND MOVEMENT DISORDER- UNVEILING THE MYSTERY OF NEURODEGENERATION ANDCALCIFICATION**

Presenting author: Dr. Abhirup Sen (PGT, Dept. Of PM&R)
Co-Authors: Professor & HoD (Dr.) Rajesh Pramanik, Dr. Pranesh Mondal (RMO-Clinical Tutor)
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ABSTRACT

Introduction: Fahr syndrome is a rare neurological condition characterized by abnormal calcified deposits in basal ganglia, thalamus, dentate nucleus, cerebral cortex, and cerebellar subcortical white matter.Clinical presentation is heterogenous, ranging from movement disorders likeparkinsonism, dystonia, cerebellar symptoms, cognitive decline and psychiatric disturbances. Given its low prevalence and complex symptomatology, this syndrome is often misdiagnosed leading to disability and medical nomadism.

Case Presentation:A 43 years old male presented with progressive neurological dysfunction, parkinsonian features like bradykinesia, rigidity, mask-like facies, loss of balance and cerebellar symptoms for last 1 year,aggravated since last 2 months, with previous H/O recurrent episodes of seizure and early onset bilateral cataract atchildhood. Initial investigations showed hypocalcaemia, hyperphosphatemia, and hypoparathyroidism. ECG revealed QT prolongation with ST segment prolongation. Neuroimaging revealed abnormal calcification at basal ganglia, thalamus, dentate nucleus, cerebellar subcortical white matter, suggestive of Fahr syndrome. Other etiologies like congenital toxoplasmosis, pseudohypoparathyroidism were ruled out by relevant investigations and clinical assessment.Final diagnosis was made as Fahr syndrome in background of idiopathic primaryhypoparathyroidism.

Discussion:Significant functional improvement was seen after initiation of prompt pharmacological management to treat hypocalcaemia and parkinsonian features,with necessary physical therapy and occupational therapy to treat ataxia and improve balance. He was advised to follow proper rehabilitation program for prevention of any future deterioration.

Conclusion:Early recognition of Fahr syndrome is essential for accurate diagnosis, genetic counseling, management, and to prevent deleterious physical and social consequences, though effective treatment remains limited.

PLATFORM PRESENTATION FACULTY



TITLE: **DIFFICULT-TO-TREAT RHEUMATOID ARTHRITIS**

Dr. Pankaj Kumar Mandal
Professor & Head, PMR
R.G.KAR Medical College, Kolkata

ABSTRACT

Rheumatoid Arthritis (RA) is a common, chronic immune mediated inflammatory disease, present with pain, swelling and stiffness typically involving small and large joints symmetrically, results in joint deformity and functional disability if not managed properly. Diagnosis of RA is clinical and biomarkers assist in the process. The 2010(ACR/EULAR) classification criteria having 84% sensitivity and 60% specificity, define scoring system including history, physical examination and biomarkers for the purpose of standardization in clinical trials in RA. Management of RA has changed dramatically reflecting a shift towards early aggressive pharmacological treatment related to improved understanding of etiopathogenesis and availability of new drugs for targeted treatment, resulting in significantly higher levels of remission and better outcome. Interestingly, a significant patient population fails to attain adequate treatment target after addition of biological/targeted synthetic DMARDs. Recently, European Alliance of Associations for Rheumatology(EULAR) has proposed a definition of difficult-to-treat rheumatoid arthritis(D2TRA).The discussion highlights development of evidence-based EULAR points to consider(PtCs) for the management of D2TRA along with recommendations about research agenda containing research questions that are considered most relevant to address.



TITLE: **CLINICAL APPROACH TO MOVEMENT DISORDERS**

Dr Tanvir Ahmed
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IPGMER, Kolkata

ABSTRACT

Movement disorders are commonly encountered in the clinic. An attempt is made to provide a practical step-by-step approach to help in 'pattern recognition' of movement disorders, as part of a process that ultimately leads to the diagnosis.

The key to success is establishing the phenomenology of the clinical syndrome, which is determined from the specific combination of the dominant movement disorder, other abnormal movements in patients presenting with a mixed movement disorder, and a set of associated neurological and non-neurological abnormalities.

Sometimes, simple pattern recognition will suffice and lead directly to the diagnosis, but often ancillary investigations, guided by the dominant movement disorder, are required.

The most common types of movement disorder, namely, akinetic –rigid syndromes and the various types of hyperkinetic disorders (myoclonus, chorea, tics, dystonia and tremor) are briefly illustrated.



TITLE: **PHYSIATRIC INTERVENTIONS IN MOVEMENT DISORDER**

Dr Pranesh Mondal,
Tutor, Dept. of PMR,
IPGME & R, Kolkata:

ABSTRACT

Rehabilitation for neurologic disorders, including movement disorders, has been evolving over the past few decades. The main objectives of neuro-rehabilitation for movement disorders are twofold: first, to maintain body structure which optimizes potential for performance and can minimize secondary medical complications and second, to maximize functional skills to facilitate functional independence and quality of life and can reduce caregiver burden. It is complex and requires an multidisciplinary and holistic approach. Physiatrists coordinate treatment among the therapeutic disciplines and with other medical specialists. A comprehensive rehabilitation protocol for movement disorders is framed consisting of pharmacotherapy, physiotherapy , occupational therapy, orthosis along with interventional procedures and surgical interventions.Botulinum toxin and chemical neurolysis (with phenol or alcohol) are very effective treatment options for focal hyperkinetic movement disorders in combination with other treatment modalities for severe cases. The effect of the movement disorder on an individual's psychological and emotional status, as well as the effects on family dynamics, should not be overlooked. Patients of movement disorders are a highly heterogeneous population and get benefit from individualized treatment plans to address the affected body structures and functional deficits as well as the individual's goals.



TITLE: **LOW-COST SENSOR-BASED BALANCE BOARD TRAINING SYSTEM: TRIAL FOR BREAKING THE BARRIER OF COST IN NEUROREHABILITATION IN INDIA**

Dr Ambar Konar,
Consultant Physiatrist, Rehabana

ABSTRACT

Introduction: Patients suffering from neurological diseases especially Parkinson's disease and stroke, despite of adequate power, often suffer from balance disorder. Balance training is utmost important to establish gait, confident active life and to minimize fall risk. Conventional balance board training is effective but has some limitation like unmeasurable parameters, monotony etc. Thus incorporation of technologies and clinical standardization is need of the hour. Due to high cost of the internationally available balance systems, the uses are limited. Low cost balance training system, if found clinically effective, will bridge the gap.

Aims: To assess the effectiveness of Sensor based balance training board system in rehabilitation of patients suffering from balance disorders due to neurological diseases.

Methodology: Observational study was conducted over 44 patients suffering from Balance disorders with Berg Balance Score <45 attending RehabanaNeurorehabCenter Kolkata in the period of June 2023 to May 2024. Three weeks for each patient Balance training done with safety measures in Wobble board incorporating sensor, detection done in software built in tablet and response was displayed in large screen in front of patients. Gradual step up with decline of support done as per response.

Static, dynamic and pattern training, Frontal and Sagittal Movement Data, Reaction analysis all were done along with gamification with scoring system. Comparative analysis of progression was done after response generation.

Results:Significant improvement in comparative scores, Berg Balance Score as well as adherence to program found in every patient. Decrease in fear of fall also seen as assessed by FES I.

Conclusion: Low cost sensor based balance Board training system is found clinically significant in our observation and should be explored in a larger number of patients. Comparative studies also needed with internationally available systems.

Keywords: Balance training, Berg Balance Score, Wobble board



TITLE: **ACHIEVING SPASTICITY TREATMENT BY ESTABLISHING EARLY INTERVENTION AND REHAB- "ASTAR"**

Madhusree Sengupta, Hrishikesh Kumar, Abhishek Srivastava, Vinay Goyal, Dheeraj Addiga, Tushar Raut, Pramod Krishnan
On Behalf of the ASTAR Centre of Excellences

ABSTRACT

Background: The current national guidelines for post stroke spasticity (PSS) management in India are inadequate, resulting in underdiagnosis and delayed treatment. Early treatment and adherence to treatment have been shown to improve long-term outcomes for PSS.

Aim: Management of post-stroke spasticity (PSS) in India through the development and implementation of a management protocol. Objective is to improve early diagnosis, treatment, and long-term adherence to treatment for PSS.

Methodology: A group of 8 top experts in Physical Medicine & Rehabilitation and Neurology from four advanced specialty institutes across India came together. The first experts' meeting was held on March 20, 2023, where current evidence, guidelines, care pathway, and identified gaps in clinical practice were discussed. The meeting resulted in the development of a protocol for the diagnosis of PSS, as well as the creation of a counselor booklet. The experts also discusses scales, risk categorization, goal setting, treatment initiation, and progress evaluation, and created a care pathway chart.

From March 21, 2023, to June 15, 2023, the group worked on developing various tools for PSS management, including the PSS management protocol, a ready reckoner, a counselor booklet, and a patient education booklet. Multiple review rounds were conducted. Group then trained their respective multidisciplinary teams (MDT) on the protocol and tools and implemented the protocol for a period of 24 weeks. During the implementation phase, the centers collected data on the progress and uptake of the tools among healthcare professionals.

The second meeting took place on December 11, 2023, where the experts discussed the role of MDT in PSS management and referral tools. The counselor and patient education booklet were merged, and the patient education booklet was translated into regional languages to ensure accessibility. The revised tools were then implemented and disseminated to pre-identified centers through small group meetings with experts. Additionally, relevant local conferences were identified for dedicated sessions on the PSS management protocol.

Conclusion: ASTAR project aimed to improve the management of PSS in India by developing a comprehensive protocol and implementing it through collaboration with top experts and the dissemination of tools and knowledge to healthcare centers across the country.



TITLE: **STUDY OF PATTERN OF PEDIATRIC LOCOMOTOR DISABILITY IN A MEDICAL COLLEGE HOSPITAL IN EASTERN INDIA**

Presenting Author: Dr Sudip Dan,
MBBS, DCH, MD(PMR), Assistant Professor, Dept. Of PMR, Midnapore Medical College and Hospital

ABSTRACT

INTRODUCTION : The most common form of disability in India is locomotor. The main estimate for locomotor disability of children in India and West Bengal has been the census and NSSO survey data. Previous survey, though it gave the overall prevalence by type of disability it lacks precise data on pediatric locomotor disabilities, socio demographic and etiological variables. Hence the present study was carried out to know the prevalence and pattern of locomotor disability to bring more public health benefit to the disabled pediatric population.

AIMS AND OBJECTIVES : To evaluate the socio demographic pattern and etiological variables of pediatric locomotor disability patients.

MATERIALS AND METHODS :These hospital based retrospective records review study was done in the dept. of PMR and disability section of Midnapore Medical College & Hospital. All locomotor disability certificates for the age group (0 -18 years) issued between August ,2018-2022 were reviewed for socio demographic pattern and etiological variables.

RESULTS: Disability certification records of 130 patients fulfilling the criteria were reviewed for socio demographic pattern and etiological variables. The predominant age group affected was 7 -12 years (49%) with a male predominance of (56%), maximum disabled children were from rural area (66%), 40% never attended any school . Most common cause of locomotor disability was due to cerebral palsy (38%) followed by congenital conditions (32%) and most commonly affected body parts was all 4 limbs (34.6%) with minimum equal involvement of single upper limb and spine (11.5%). Maximum patients were in the disability range of 40 – 50 (34.6%) and were disabled since birth (69.2%). Maximum disabled children were categorized as likely to improve category (53.1%) and 46.9% were not likely to improve .

CONCLUSION : The result found in this study were comparable to national figures. An important finding is the absence of disability in the younger age group due to leprosy and polio reflecting the impact of the respective control programs. Inspite of improvement in antenatal care and essential newborn care , congenital abnormalities and cerebral palsy remains the predominant cause.In contrast to the western figures accidents does not play important roles in our study.Inspite of improvement of rehabilitation services and establishment of DEIC ,there are still deficits in service in remote areas of our states and country.

TITLE: **A CROSS-SECTIONAL OBSERVATIONAL STUDY TO EVALUATE BONE MINERAL DENSITIES BY QUANTITATIVE ULTRASOUND IN PERSONS WITH CHRONIC LOW BACK PAIN**

Presenter: Dr Raktim Swarnakar, Senior Resident, Dept. of Physical Medicine & Rehabilitation, R. G. Kar Medical College & Hospital, Kolkata
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ABSTRACT

Background: Chronic low back pain (CLBP) greatly affects quality of life. Although studies suggest a link between low bone mineral density (BMD) and musculoskeletal pain, the relationship between BMD and CLBP, particularly using Quantitative Ultrasound (QUS), is less explored. QUS is a non-invasive, affordable tool for BMD assessment, and recent studies show calcaneal QUS can effectively screen for BMD, potentially reducing the need for DXA scans. Objective: To assess BMD in individuals with CLBP using QUS and explore its correlation with CLBP severity.

Methods: A cross-sectional study of 167 individuals (age ≥18 years) with CLBP measured BMD at the calcaneus using QUS. The severity of CLBP was assessed using the Visual Analog Scale (VAS) and Oswestry Disability Index (ODI). Data were analyzed for correlations between BMD, pain intensity, functional disability, and demographics.

Results: Participants (41% male, 59% female; mean age 44±13.9 years) had a mean BMD of -1.42±0.79. Significant negative correlations were found between BMD and both VAS and ODI. A strong positive correlation was observed between VAS and ODI.

Conclusion: Low calcaneal BMD is associated with CLBP and related disability. Further research is needed to explore the mechanisms linking bone health and chronic pain.



TITLE: **JAK Inhibitors in Ankylosing Spondyliits**

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ABSTRACT

JAK inhibitors, which fall under the category of targeted synthetic DMARDs, are oral medications designed to inhibit JAK enzymes. For patients with axial spondyloarthritis (axial SpA), two specific agents are available: upadacitinib and tofacitinib. These medications are generally recommended when patients have not responded adequately to or cannot tolerate initial therapy with TNF inhibitors.

JAK enzymes play a critical role in initiating signal transduction pathways for various cytokines, and JAK inhibitors have shown effectiveness in treating several inflammatory rheumatic disorders. Detailed information about their biological mechanisms, usage guidelines, precautions—including screening for latent tuberculosis (TB)—and associated adverse effects is provided in separate resources.

There are two main advantages to using JAK inhibitors: they are taken orally and can be stored at room temperature. In contrast, all TNF inhibitors and anti-IL-17 antibodies require injection and must be refrigerated. Additionally, JAK inhibitors are beneficial for patients with psoriatic arthritis and ulcerative colitis.

However, it is advised that JAK inhibitors be considered only after patients demonstrate an inadequate response to one TNF inhibitor. This caution stems from findings of increased risks of cardiovascular events, malignancies, and thrombotic incidents associated with tofacitinib, particularly in individuals over 50 years old with elevated cardiovascular risk, which has led to warnings from the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA).

Tofacitinib

Tofacitinib carries a higher likelihood of venous arterial thromboembolic events. A black box warning from the FDA indicates a potential increased risk of cardiovascular problems such as heart attacks and strokes, cancer, blood clots, and mortality associated with JAK inhibitors as a class, particularly for those aged over 50 (1,2). The EMA's safety committee advised that tofacitinib should only be used in patients over 65 years of age if no alternative therapies are available (3). Currently, safety data on upadacitinib is limited to selected trial populations, highlighting the importance of screening for individual risk factors such as older age and smoking.

Patients using JAK inhibitors also face a twofold increased risk for herpes zoster infections. Recommendations for vaccinations against herpes zoster. It's important to note that JAK inhibitors are contraindicated in pregnancy.

Upadacitinib

The European Commission has approved upadacitinib for treating axial SpA (including non-radiographic axSpA and ankylosing spondylitis) and psoriatic arthritis (4). In the United States, it has received FDA approval for adults with either axial SpA or psoriatic arthritis who have not responded adequately or who have shown intolerance to one or more TNF inhibitors (5).

The effectiveness of a 15 mg once-daily dose of upadacitinib for ankylosing spondylitis was demonstrated in a phase 2/3 randomized trial involving 187 patients with active AS who had not responded to nonsteroidal anti-inflammatory drug (NSAID) therapy; those treated with upadacitinib were more likely to achieve an ASAS40 response at 14 weeks compared to those receiving a placebo (52% versus 26%) (6). Long-term results at 64 weeks showed partial remission in about 35% of patients on Upadacitinib (7).

Upadacitinib also proves effective for those with non-radiographic axSpA. In a trial with 313 active nr-axSpA patients, a higher ASAS40 response rate was noted at 14 weeks for those on upadacitinib compared to placebo (45% versus 23%) (8).

Serious potential side effects of upadacitinib and other JAK inhibitors include venous thrombosis, pulmonary embolism, infections (including TB), and malignancy.

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New Heights in PM&R: From Nature to Next

Dr Aniketa Banerjee

Our subject PMR is the only speciality in medical profession which is dedicated solely to restoring functional ability and improve quality of life for individuals with physical impairments and disability, hence the age old adage "adding life to years, not years to life" rings true for the subject

The theme of our conference "New Heights in PMR: From Nature to Next" is very relevant as it encompasses the whole gamut from understanding the basic philosophy which includes the micro environment that we live in, the natural world, the natural therapies which ultimately progresses to the next line of futuristic therapies, but at the end a seamless blending is required between technology and nature.

The basic nature of PMR is to focus on-

- Functionality- ADLs
- Inter disciplinary approach- Team work
- Customised treatment plan- Individual approach

Natural therapies in PMR

This emphasises on body's inherent ability to heal. The common approaches are-

1. Physical Therapy -exercise based Rehab to increase strength and mobility of joint
2. Manual Therapy- massage, joint mobilisation, myofascial release
3. Hydro Therapy to reduce joint stress and promote mobility
4. Thermal Therapy both heat and cold
5. Accupuncure and dry needling- reduces pain and stimulates nerve function
6. Nutritional support- proper diet and supplementary to effective recovery
7. Yoga and Manipulation- enhances physical strength and mental well being

Next line future of PMR

Advancement in technology

1. Robotics
2. Virtual Reality- for motor function and pain rehab
3. Tele rehab- promotes access
4. Wearable devices- to track movement, motor recovery and feedback
5. Artificial Intelligence- for personalised planning and progress assessment
6. Biotechnology- smart assistive device, sensory feedback

Personalised medicine-use genetics and bio molecular data to create tailored rehab program

Regenerative medicine- stem cell therapy, PRP for repair of muscle and nerve damage

Balancing this two approach: Nature and Technology

The future of PMR will focus on fusing technology with natural therapies for effective and personalised care.

Combining yoga and AI

Use hydrotherapy along with robotic exoskeleton gait training

Applying regenerative medicine to compliment traditional physical therapy

The balanced approach ensures that the patient receive comprehensive care that honour natural healing while welcoming future innovations.

Purulia: A Rustic Tableland of Mystic Charm

Dr Siddhartha Sinha Ray

West Bengal is a unique state in India in terms of geographical variance. Don't you agree? Just try to find another state which touches the mighty Himalaya as well as the sea. The uniqueness does not stop here. At the extreme west of this state lies a land which is so different from the typical gangetic plain of Bengal. A tableland of undulating horizon, sparse greenery, rustic road, gentle spring coming out of hilly caverns, hardly fills like the abode of "Machhe Bhaate Bangali". Roughly 250KM away from the cacophony of Kolkata, that's Purulia for you.

HISTORICAL BACKGROUND:

The area is thought to be part of ancient kingdom of Vanga, which was one of the Sixteen Mahajanapada according to Jaina Bhagavati-Sutra of circa 5th century A.D. and also mentioned as a part of the country known as Vajra-bhumi. However, little is known about Purulia before the East-India Company.

In 1765, the nominal Mughal Emperor Shah Alam II was defeated to the British East India Company in the Battle of Buxar. He granted "Diwani" (right to collect revenue) of Bengal (which included Bihar) to the East India Company. By 1805, a Jungle Mahals district composed of 23 parganas and mahals including the present Purulia was formed. In 1833, the Jungle Mahals district was broken up and a new district called Manbhum was constituted. In all probability Manbhum got its name from the Rajput General of Akbar, Man Singh of Amer, during his conquest of Bengal, Bihar, Odisha. The district was very large in size and included parts of Bankura, Burdwan of present West Bengal and Dhanbad, Dhalbhum, Saraikela and Kharswan of present states of Jharkhand and Orissa. Initially the district headquarters was at Manbazar. In 1838 it was transferred to Purulia (Purulia town of today).



The Bihar and Orissa Province was formed in 1912 by dividing the Bengal Presidency. At that time Bengali speaking Manbhum was included in the newly formed province. In 1936, the Bihar and Orissa Province was divided to form the Bihar Province, but Bengali-speaking Manbhum was kept with Hindi-dominant Bihar Province. In 1948, the then Government of Bihar declared Hindi as the only official language in the whole of Bihar including Manbhum. The Bengali speaking common people of Manbhum could not accept this unfair decision and were not mentally prepared at all. Deep anger was born among them and created adverse reactions. As a result, the movement in Manbhum to demand the equal status of Bengali language quickly spread. To suppress the movement, the Government of Bihar declared protest marches, meetings etc. illegal and prohibited.

The growing mass movement finally forced the Government of Bihar to capitulate. Finally in 1956 Manbhum district was partitioned between Bihar and West Bengal under the States Reorganization Act and the Bihar and West Bengal (Transfer of Territories) Act 1956 and the present district Purulia was born on 1st November, 1956 and was merged with the state of West Bengal.

GEOGRAPHY:

This district is bordered on the east by Bankura, Paschim Medinipur districts, on the north by Bardhaman district of West Bengal state and Dhanbad district of Jharkhand state, on the west by Bokaro and Ranchi districts of Jharkhand state and on the south by West Singhbhum and East Singhbhum districts of Jharkhand state.



Purulia is the westernmost district of West Bengal with all-India significance because of its tropical location, its shape as well as function like a funnel. It funnels not only the tropical monsoon current from the Bay to the subtropical parts of north-west India, but also acts as a gateway between the developed industrial belts of West Bengal and the hinterlands in Odisha, Jharkhand, Madhya Pradesh and Uttar Pradesh.

Purulia has a tropical savanna climate and receives most of its rainfall during the monsoon season. Temperature is high in summer, averaging 40 °C (104 °F) and average in winter, around 10 °C (50 °F).

Several rivers flow across Purulia district. Among these Kangsabati, Kumari, Silabati (silai), Dwarakeswar, Subarnarekha and Damodar are the important ones. Although several rivers flows across the district, 50% of the water runs off due to the undulated topography.[12] There are also several Small dams like Futiyary, Murguma, Pardi, Burda, Gopalpur, which are mainly used for irrigation of agriculture field.

TRANSPORT:

Purulia district is well connected with other cities and towns of West Bengal and neighbouring states by road and rail transport.

The District is served by three Rail connections provided by the South Eastern Railways. One line runs from Jharkhand in the South through the district up to Asansol passing through Adra division. Another line runs between Bankura and Dhanbad also via the Adra Division. The third line connects purulia with Jharkhand. Major cities and towns like Ranchi, Tatanagar, Patna, Howrah, Bokaro, Dhanbad, Lucknow, Asansol, Bhubaneswar, Puri, Durgapur, Mumbai, Chennai and Delhi are now well connected with this district by railways. The Railway Divisional Headquarter Adra railway division, which is one of the major rail divisions of South Eastern Railway, is situated on the northeastern part of Purulia district.

Rail distance of Purulia from Kolkata is 322 km. Purulia Railway station is present in the Purulia town which is managed by the South Eastern Railways and is on the Adra-Tata Nagar rail route. Trains from Kolkata are available for Purulia on regular basis. Some of these trains are Chakradharpur Express(18011), Rupasi bangla Exp (12883), Purulia Exp (12827), Ranchi Intercity Exp(22891), Ranchi Vande Bharat Exp(20897) etc. The minimum time a train takes to reach Purulia from Kolkata is 04h 48m.

Purulia can also be reached from major railway stations within South Eastern Railway network i.e Adra(43 km), Asansol(93km), Tatanagar(95km), Bokaro (82km), Dhanbad(89km) etc.

The road transport is another important transportation medium of Purulia. The road transport is adequate in terms of bus availability and goods flow. NH 18 (now NH 32) connects this district with Jamshedpur, Bokaro, Chas and Dhanbad. National Highway 60A (now NH 314) connects Purulia with State Highway 9 at Bankura and subsequently to NH2 at Durgapur. State Highway 5 also plays an important role in district's transport network as it connects the towns like Raghunathpur, Adra, Santaldih and Neturia to NH2 at Neamatpur and Asansol. Purulia has excellent road connectivity with Raniganj-Asansol industrial belt. South Bengal State Transport Corporation runs 4 buses from Purulia to Kolkata via State Highway 5 thus connecting towns and cities like Raghunathpur, Adra, Neturia to the industrial belt of Asansol, Raniganj, Durgapur and Burdwan. There are also many private bus operators on this route.

ETHNICITY, ART AND CULTURE:

Indigenous tribal population forms an integral part of the cultural milieu in this district. Tribal people in Purulia district mainly belong of Proto-Australoid group. Majority are Santhals(60%). Others are Bhumij(18%), Sabar(7%), Munda(6%) and Bihor(1%).

- **Santhal:** The largest tribe in West Bengal, the Santhals mainly live in Purulia, Bankura, and Paschim Medinipur.
- **Birhor:** A primitive, seminomadic group that lives in isolation and prefers to maintain their prehistoric lifestyle. They are considered a Particularly Vulnerable Tribal Group (PVTG).
- **Sabar:** A tribe that makes crafts like planters, file trays, and jewelry boxes from local resources like bamboo and palm.
- **Bhumij:** A tribal group in Purulia.
- **Munda:** A tribal group in Purulia.

The indigenous people of Purulia rely on the forest for food, medicine, clothing, and livelihoods. However, the region faces threats from illegal logging, poaching, and construction projects.

Purulia has rich cultural heritage. It has the mixed culture of Bengal, Jharkhand, and Odisha as it was a part of these areas for various times. From archaeological evidences to local festivals, every cultural event has got a tribal touch in it, which is the speciality of Purulia. Living mostly in rural areas and keeping intact many of their socio-cultural values, more or less in pristine forms, the rural people of Purulia have their folks to speak about many of their tenets. The distinctiveness of those is well demonstrated with the sentiments and feelings of the population and these are marked with splash of colours and often entwined with pathos, romanticism, velour and social consciousness. Purulia has a range of traditional song types, including Jhumur, Ahirageet, Bhadu, Bihargeet, Baul, Karamgeet, and Tusugeet.It is also the birthplace of a martial dance of Bengal Chhau. The place has number of local art form which make it renowned at the world stage like chhau mask, tribal wall paintings, bamboo works, patachitra etc.

- **Patachitra:** A scroll painting tradition that is ritualistic and associated with daily life. Purulia Patachitra is known for its simple style, natural colors, and bold strokes.
- **Bamboo works:** A traditional craft that includes basketry.
- **Chau masks:** Vibrant masks worn by Chau dancers. The masks are often integrated with headgear and are meant to heighten the theatricality of the dance.



•**Tribal wall paintings:** Also known as Chaitpura, this art form is traditionally painted by tribal women during the Bandna festival. The paintings are made with a semi-liquid made from white mud and natural glues, and are spread with the fingers.

•**Chho dance:** A folk dance that is practiced in Purulia, Seraikella, and Mayurbhanj. In 2010, UNESCO added the Chho dance to its list of Intangible Cultural Heritage.

•**Natua:** A lesser-known folk dance form in Purulia that is martial in character.



•**Sohrai and Baha:** Rituals performed by the Santals.

- **Bhadu and Tusu songs:** Ritual songs associated with festivals of the same name.
- **Jhumur:** A centuries-old folk song tradition.

TOURISM:

Tourism is another source of income for this district. Forests, Hillocks, Rivulets, Streams, Wild Life, Flora & Fauna has tremendous scope to be explored by the tourist. The prominent of the district like Ajodhya Hills, Matha, Murguma

Dam and Kuilapal Forests, Jaychandi Pahar, Panchakote Raj Palace and fort, Duarsini Hills and Forests attract quite a good number of visitors to Purulia every year.

Hundreds of thousands of tourists come to visit Purulia annually to witness the charm of the natural scenery of Ayodhya, Turga Falls, PPSP Upper and Lower Dam, Dawri khal in Kesto Bazar Dam, Lahoria Shiv Mandir, Matha and Kuilapal, falls and tribal habitations of Ajodhya Hills and Bagmundih, dams like Panchet, Murguma Dam and Futiari, heritage buildings like Panchakot Raj Palace, trekking range of Matha pforest with Pakhi Pahar, and Joychandi Pahar, picnic spots like Baranti, Duarsini, Doladanga, Jamuna, traditional folk dance and culture like Chhou Dance and Jhumur Song.

Best time to visit Purulia for tourism is September to February. In the month of September, October just after the monsoon ends, clear sky of autumn is glowing, serpentine rivers are dancing downstream, magnificent lakes are full of water, rustic forests are greenest at this time. November brings the chill of winter. Migratory birds start to flock into the clear lake all around. December and January gives the feel of extreme dip in mercury. Then comes the February, then comes the spring, king of seasons. The entire tableland gets covered in the reddish hue of palash, literally known as forest fire, a sight to behold.

Among the innumerable amont of places of interest in this mystic land, here are some worthy of mentioning:

AJODHYA AND SURROUNDING

Ajodhya Hills (Category Natural / Scenic beauty)



Ajodhya hill is a small plateau with hilly surroundings located in the Purulia district of the state West Bengal, India. It is the easternmost part of the Chhotanagpur Plateau and extended part of Eastern Ghats range. Highest peak of Ajodhya Hills is Chamtuburu (720 m). Gorgaburu with a height of 677 m (2,221 ft), Mayuri etc. are some of the other peaks of Ajodhya hills range. The nearby populated town area is Bagmundi. It is a popular place for young mountaineers to learn the basic course in rock climbing. There are three routes available to reach Ajodhya Hills, via Jhalda, via Sirkabad and via Baghmundi. Matha forest range, Baghmundi, Pakhi pahar, Turga falls and dam, Bamni falls, upper and lower dam of Purulia Pumped Storage hydro power Project are some of the important places of tourist attraction around Ajodhya hills. The place is about 45 kms away from the town of Purulia. There are two Forest Rest Houses here, one at Ajodhya hill top and the other is at Matha range office. Many other accommodation facilities are available in Ajodhya Hill top and Bagmundi. Most famous of them in recent times is Kushal palli Resort at Ajodhya Hill top due to its luxurious splendor amidst stunning 360 degree landscape of Ajodhya hill with surrounding forests and lakes.



Rocks that make up Ajodhya hills belong to a group of rocks called Chhotanagpur Granite Gneiss Complex. Investigations have revealed that they formed more than a billion years ago in Mesoproterozoic era. Since then the area underwent multiple phases of tectonic movements, and witnessed metamorphic and magmatic episodes, thus forming varieties of rocks that we see today. Prolonged erosion through ages sculpted the area and formed its admirable river valleys, residual hills, lakes, springs and waterfalls that make the area a major ecotourism hot spot.

Many species of mammals, amphibians, insects etc can be spotted in the dry, deciduous forests of the region. One such species is the Madras treeshrew which is small mammal, not common in West Bengal. Among the trees, Sal, Palash, Kusum, Mohua, Kend, and various bamboos are commonly observed.

Bamni Falls (Category Natural / Scenic beauty)

The Bamni falls located on the river Bamni 7kms away from baghmundi village. The scene indicates the unblemished purity of nature when not ravaged by human habitation. It represents the vitality, spirit and enjoyment of nature. The sound of flowing water is all that can be heard. The water, making its way around, over and through the rocks, makes a beautiful noise. Green bushes cover the hill where large rocks are not exposing themselves. Below the bushes are signs of erosion where the flowing water has carried the dirt down the hill.. Small plants and algae are on the rocks as well. The whole area brings an uplifting feeling. It is an area to connect with one's inner soul and to raise one's spirits. A place to sit, daydream and simply enjoy the uniqueness of the peaceful, serene nature which is becoming rare.





Charidah (Category Historic)

Masks of Charidah village in Baghmundi block of Purulia (WB) used in the martial dance "Chhau" which is internationally famous. The art of Chau mask making started in Charida village during the rule of King Madan Mohan Singh Deo of Bagmundi around 150 years back. The masks are made of clay and papier-mâché with elaborate ornamentation and beautiful colouring that make the masks extremely attractive. Around 250 artisans of Charidah village are involved in this craft. RAM KRISHNA HASTA SHILPA SAMITY – a SHG of 13 members from Charidah village are professionally engaged in this mask manufacturing and they have been awarded at the national level for their effort too.

Murguma Dam (Category Natural / Scenic beauty)

It is located in the north of Begunkodar within Jhalda Block and is about 55 kms from Purulia town. The dam is on the tributary of Kangsabati river. This is a very good picnic spot. The natural beauty of Ajodhya hill is visible from this point.



Deulghata (Category Historic)



Deulghata is a place near Boram in Arsha PS. It has the ruins of 11th century Jain temples near the Kansai River. The stucco decoration is the notable architecture made on the temple. The entrances of those temples are entangled with the branches of trees, casting an eerie. However these temples are the representations of the age, when they were built. The excellent skills are evident in the wreckage of the temples and idols reflect strong evidences of SEN & PAL empires. Moreover the temples adorned with the graceful carve, attracts visitors, and hence are important in the tourism of Purulia.

Turga Falls and Dam (Category Natural / Scenic beauty)

Turga water fall is a cascading fall with clear water, simply staggering to observe. It is just 5km away from the village of Baghmundi. Turga Dam, built on Turga nala, a tributary of Subrnarekha river, is 2.5km away from Baghmundi. It is being developed as TPSP by WBSEDCL in line with the successful Purulia Pumped Storage Project for Hydro power.

Khairabera Dam (Category Natural / Scenic beauty)

This is an Irrigation Dam amidst hills and forest at Baghmundi. It is a beautiful and pleasant place with high potentiality to be developed as an attractive tourist spot. It is situated at the Baghmundi block some 70 Km away from Purulia town, this place has a vast water body at the foot hills of Chemto and Barra Hills (Ajodhya –range).During the spring (Holi season) the Palash trees add a new spectrum to the scenic beauty of the area with their red-flowers. The place has ample scenic beauty and resources to be developed as a prime tourist spot.

Sita Kunda (Category Mythology)

Sita Kunda is located in Bagandi village under Ajodhya Gram Panchyat at Baghmundi Block of Purulia district of West Bengal, 47kms from purulia town via sirkabad. The cold water bubbles from beneath invading the white fine sand at Sita Kund are mystical and astonishing. The place also has pristine fresh water springs and streams. Sita Kunda is a place which is associated with the classic Ramayana. According to Hindu mythology, Rama and Sita had come to Ayodhya Hills and stayed during their exile. Sita was thirsty and Ram pierced an arrow through the Earth's soil crust and through that pristine fresh water springs and streams gushed out. Sita quenched her thirst. Local tribal Tundra community people of the Ajodhya hill join in the hunting of wild animal in the full moon (Purnima) day of Baisakha in this place.

PANCHET AND SURROUNDING

Garh Panchakot (Category Historic)



Garh panchakot means Fort of five clans. It's a famous historical place located within Neturia Block, and is 60 kms away from Purulia town. It has the ruins of some forts built by the kings of Panchakot in 1600 A.D.

Damodar Sekhar, established Panchkot Raj probably during early 90 AD with the help of Sardars of Jhalda and expanded his kingdom over several other parganas. To give recognition to the main five (panch) clans (khunt) of the locals the kingdom assumed the name Panchkot, locally known as Panchet. Panchakot Raj was probably a part of Tilakampa Kingdom. Telkupi, esrtwhile capital of Tilakampa Kingdom and a village under Raghunathpur police station at Garpanchkot (Garh Panchkot), was submerged with the construction of Panchet Dam.

Garpanchkot or Garh Panchkot was a part of the Singh Deo dynasty of Panchkot located at the southern foothills. This isolated, quiet and serene valley resonates with the melodious chirping and symphony of different variety of birds. Alongside nature's amazing beauty, Panchakote Hill is also enriched with Zoological Treasure. Garhpanchakote is also a testimonial to a rich ancient historical heritage. The ruins of the Panchakote Palace are a silent testimony to the Bargi attack during the 18th century and a group of temples are still standing as mute spectators of the rise and fall of the dynasty. The temples are of different architectural styles, the principal one being a 'Pancharatna' temple accompanied by 'Jor-Bangla' type and more than one 'Pirha' type temples made of stone. The Pancharatna temple still carries some depleted but exquisite piece of presumably pre-muslim period terracotta work on its arches and pillars.

500 meters away and a bit uphill from the main ruins of the Garpanchkot (Garh Panchkot), lies 'Dhara' a perennial spring channeled through a 'Cow mouth' made of stone.

Panchet Hill & Dam (Category Natural / Scenic beauty)

Panchyet Hill is situated at the North – East corner of Purulia District near the border line between West Bengal and Jharkand close to North-West end of Burdwan District of West Bengal and South-West to Panchyet Dam on Damodar River and its tributary.

The height of the Hill is 2017 ft. above Sea level and it is the 2nd highest Hill in Purulia after Ajodhya. Panchyet Hill along with its rich forest was within the Panchakot Raj Estate under the control of erstwhile Maharaja of Kashipur and is historically important and was actually used as a Fort of the Maharaj, being a safe place to counter enemies and that is why this Hill is also known as Gar-Panchyet(Garh Panchakot) Hill.

Panchet Dam was the last of the four multi-purpose dams included in the first phase of the Damodar Valley Corporation (DVC). It was constructed across the Damodar River at Panchet in Dhanbad district in the Indian state of Jharkhand, and opened in 1959. As a result of the catastrophic flood of 1943, the Governor of Bengal appointed the Damodar



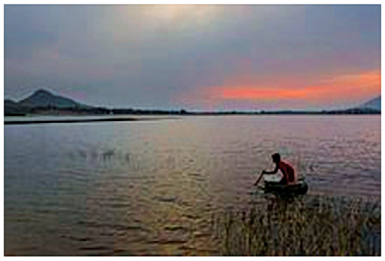
Flood enquiry committee to suggest remedial measures. It suggested creating an authority similar to that of the Tennessee Valley Authority in the United States. As a result, Damodar Valley Corporation came into existence in 1948 for development and management of the basin as a whole. The first dam was built across the Barakar River at Tilaiya and inaugurated in 1953. Two years later, in 1955, the second dam across the Konar River was inaugurated. The third dam across the Barakar at Maithon was inaugurated in 1957, and the fourth dam across the Damodar at Panchet was inaugurated in 1959. As damodar river in this forms the boundary between Purulia district of West bengal and Dhanbad district of Jharkhand, Panchet dam connect them together.

The area has vegetal cover having flora of wide Bio-diversity and contiguous huge reservoir of Panchyet Dam. The Hill top is accessible by forest road maintained by the Department of forests. It offers a picturesque and panoramic view of the forest and the Dam.

For promotion of tourism West Bengal Forest Development Corporation Limited have recently constructed Dormitory and suites at Eco.-Tourism Centre at Baghmara in Panchyet Hill whose booking can be done from their office at Raja Subodh Mallick Square, Kolkata. The Hill is not far from Purulia town and is very close to Adra Junction and Barakar Rail Station

Muradi Dam & Boronti Lake (Category Natural / Scenic beauty)

Muradih Dam is about 15 Km. from Panchyet Hill, a big water body surrounded by hillocks. A famous picnic spot during winter season tourist parties come to the spot for picnic and enjoying scenic beauty. Many migratory birds come to this lake during winter. It is situated at the foothill of Muradih Hill. The water of this dam is mainly used for irrigation and fish production. The purified dam water is distributed in the neighboring villages through pipe line. The beauty of the dam is very attractive.



Boronti is a lake, surrounded by hills covered with thick vegetation. It's close enough to stop by for the weekend. The best way to visit Boronti is to take a night train to Adra. From there, a local train will take you towards Asansol, through the rugged landscape of Purulia, past the towering cliffs of Jaichandi, to the sleepy station of Muradi. From Muradi, you can take a jeep or a leisurely but bumpy rickshaw ride to Boronti.

Jaichandi Pahar (Category Natural / Scenic beauty)



Jaichandipahar is located very close to the Municipal town Raghunathpur. It is about 44 kms from Purulia. This is a very popular trekking spot. It is also an important picnic spot. Railway Station Jaichandipahar is in the vicinity of the spot. All facilities are available at nearby Raghunathpur town.

Telkupi (Category Historic)



Telkupi, thought to be capital of earlier Tilakampa kingdom, is a village at Raghunathpur P.S., and about 8 kms. north-east of Cheliama, it was earlier visited by J D Beglar, Armenian-indian archeologist and engineer, working for Alexander Cunnigham, the first Director General of Archeological Survey of India. He described this place as 'containing, perhaps, the finest and largest number of temples within a small space that is to be found in the Chhoto Nagpur Circle in Bengal'.

Out those only two stand today and one more is visible half-submerged in the Damodar reservoir at the Panchet Dam. The site was on the south bank of the Damodar –the crossing of the former trade route between Bihar and Orissa -subject to erosion from floods and has now been permanently submerged after the construction of the Panchet Dam.

TO CONCLUDE.....

This enchanting place of ancient indigenous tribes surviving in modern day world, stunning natural hills, forests, streams, falls and lakes amalgamating with technological advances of roads, dams, hydro projects, vast plethora of flora and fauna finding a place to co-exist with human species and finally breathtaking landscape accommodating places of luxury living is the perfect recipe for fusion of nature with technology.

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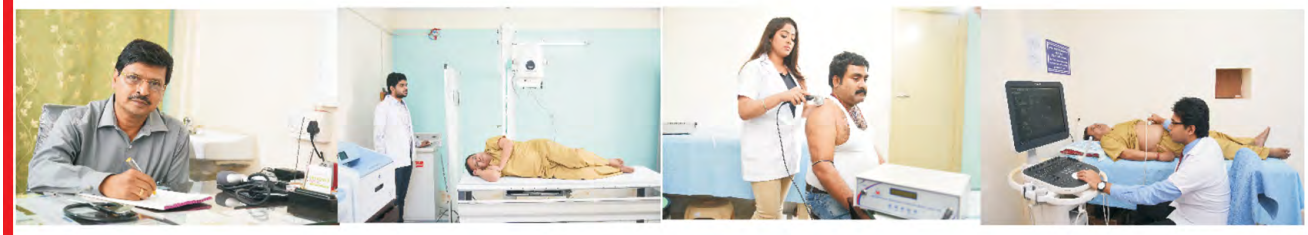
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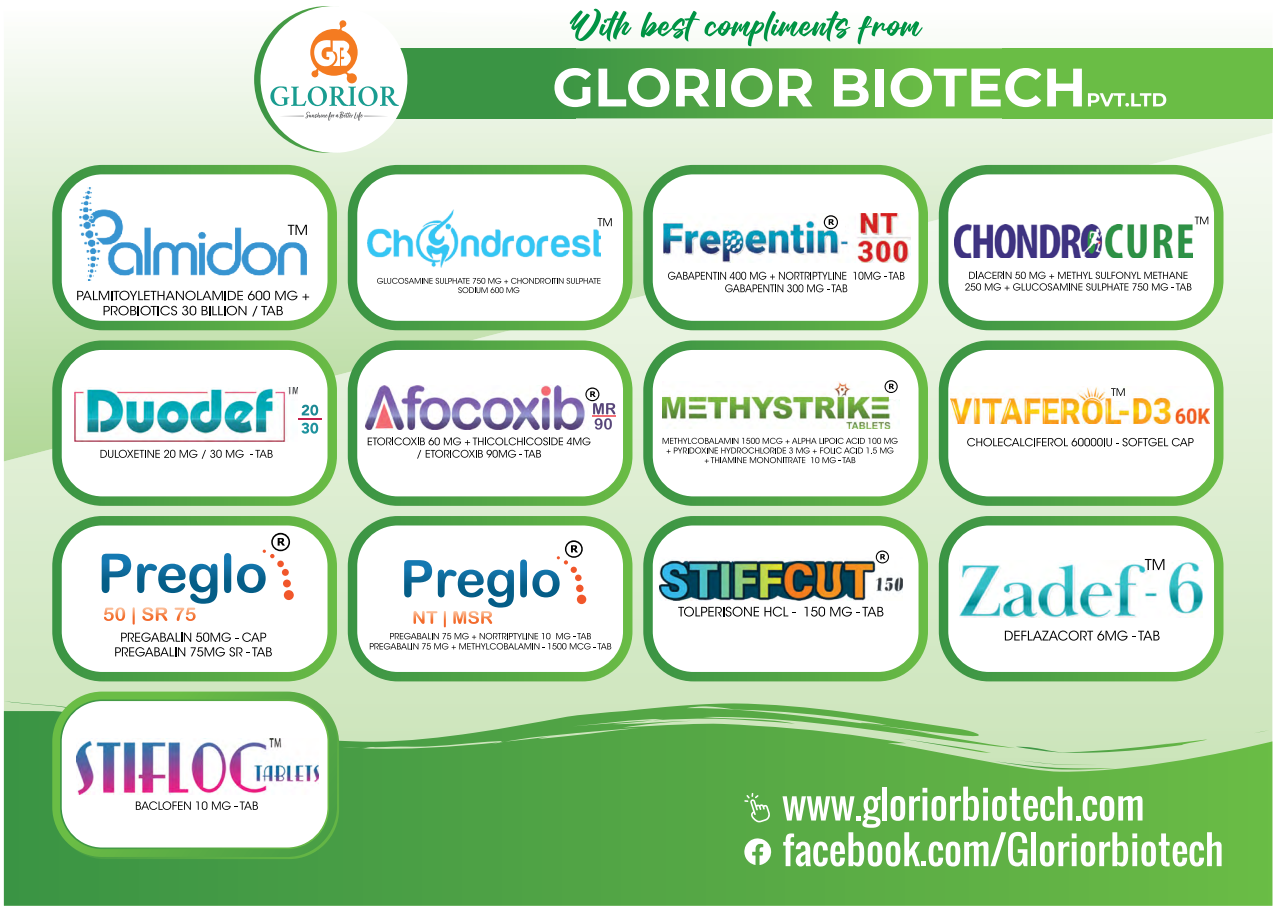
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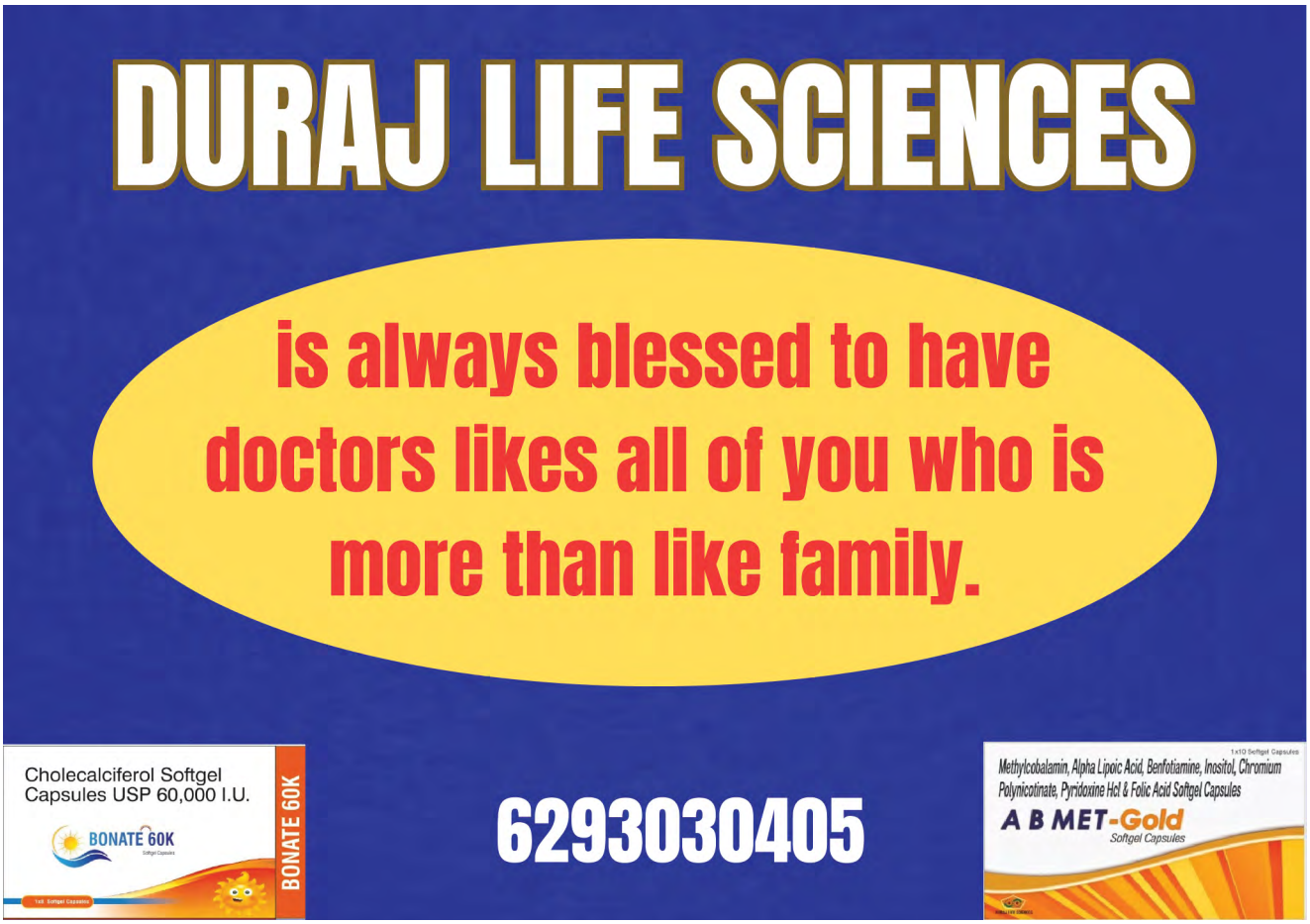
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