



Pema Sangay
Regional Institute of
Medical Sciences, India

Biography

Pema Sangay, completed his MBBS in 2018 from Ivano-Frankivsk National Medical University, Ukraine. He is currently a first-year postgraduate trainee in the Department of Physical Medicine and Rehabilitation at the Regional Institute of Medical Sciences. His interests include interventional pain management and musculoskeletal rehabilitation. He has presented a poster at the Mid-term CME of the Indian Association of Physical Medicine and Rehabilitation (IAPMR) and is presently working on his thesis, which focuses on fluoroscopy – and ultrasound guided cryoablation versus intra-articular steroid injection for sacroiliitis in ankylosing spondylitis patients.

Effectiveness Of Fluoroscopy Guided Cryoablation Of Genicular Nerves In Comparison With Steroid And Local Anaesthetic Block In Improving Pain And Function In Patients With Grade 3 And 4 Osteoarthritis Of The Knee: A Randomized Controlled Trial

Abstract:

Background: Knee osteoarthritis (OA) is a leading cause of pain and disability, with limited non-surgical treatment options in advanced stages. Fluoroscopy-guided cryoablation of genicular nerves is an emerging alternative for pain control and functional improvement.

Objective: To compare the effectiveness of fluoroscopy-guided cryoablation of genicular nerves with steroid and local anaesthetic block in improving pain and function in patients with Kellgren-Lawrence grade 3 and 4 knee OA. **Methods:** This single-blinded randomized controlled trial was conducted at the Department of PMR, RIMS, Imphal, involving 82 patients aged 50–75 years with chronic knee pain. Participants were randomized into two groups: Group A received fluoroscopy-guided cryoablation of the superomedial, superolateral and inferomedial genicular nerves; Group B received steroid (Triamcinolone 40mg) and local anaesthetic (Bupivacaine 0.5%) block. Both groups underwent a structured rehabilitation program. Pain and function were assessed using the Visual Analogue Scale (VAS) and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) at baseline, 1, 4, 12 and 24 weeks.

Results: Both groups demonstrated significant improvement in VAS and WOMAC scores from baseline ($p < 0.001$). However, cryoablation produced greater and sustained improvement. At 24 weeks, mean VAS reduction was 5.9 vs 4.0 and WOMAC improvement was 60.5 vs 34.6 in the cryoablation and steroid groups respectively ($p < 0.005$). No major adverse events were reported.

Conclusion: Fluoroscopy-guided cryoablation of genicular nerves is more effective and longer-lasting than steroid and local anaesthetic block in reducing pain and improving function in advanced knee OA. It represents a promising minimally invasive alternative for patients unsuitable for surgery.