بسم الله الرحمن الرحيم

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بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات : لا يوجد

Comparative Study Between Ultrasound Guided Intraarticular Injection of Corticosteroids and Ultrasound Guided Genicular Nerve Block in Patients with Chronic Knee Pain

Thesis

Submitted in Partial Fulfilment of the M.Sc. Degree in **Radiodiagnosis**

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List of Abbreviations

Abb.	Full term
AAOS	*American Academy of Orthopedic Surgeons*
ACL	*Anterior cruciate ligament*
ACR	*American College of Rheumatology*
BA	*Betamethasone-Acetate*
BSP	*Betamethasone-Sodium Phosphate*
CFN	*Common fibular nerve*
CKP	*Chronic knee pain*
CS	*Corticosteroids*
DVT	*Deep venous thrombosis*
EULAR	*European League Against Rheumatism*
FDA	*Food and Drug Administration*
GNB	*Genicular nerve block*
HA	*Hyaluronic acid*
IACSI	*Intra-articular Corticosteroids injection*
IAHAI	*Intra-articular hyaluronic acid injection*
IAPRPI	*Intra articular platelet-rich plasma injection*
ILGN	*Infero-lateral genicular nerve*
IMGN	*Infero-medial genicular nerve*
IPBSN	*Infra-patellar branch of saphenous nerve*
KL	*Kellgren-Lawrence*
LCL	*Lateral collateral ligament*
MA	*Methylprednisolone-Acetate*
MCL	*Medial collateral ligament*
MOAKS	*MRI Osteoarthritis Knee Score*
MRI	*Magnetic Resonance Imaging*
NSAIDs	*Non-steroidal anti-inflammatory drugs*
OA	*Osteoarthritis*
OA	*Rodrigues RSI Osteoarthritis Research Society International*
PCL	*Posterior cruciate ligament*

List of Abbreviations *(Cont...)*

Abb.	Full term
PRP	*Platelet-rich plasma*
RA	*Rheumatoid arthritis*
RF	*Radiofrequency*
RFGNA	*Radiofrequency genicular nerve ablation*
SLGN	*Supero-lateral genicular nerve*
SMGN	*Supero-medial genicular nerve*
TA	*Triamcinolone-Acetate*
TAE	*Transcatheter arterial embolization*
TH	*Triamcinolone-Hexacetonide*
TKA	*Total knee arthroplasty*
US	*Ultrasound*
VL	*Vastus lateralis*
VM	*Vastus medialis*
WOMAC	*Western Ontario and McMaster Universities Arthritis Index*

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ABSTRACT

Background: Chronic knee pain represents a major cause of disability and a burden on healthcare systems worldwide, being more prevalent in middle-aged and elderly patients. It can be caused by degenerative conditions, such as osteoarthritis (the most common cause), rheumatoid arthritis, crystalline arthritis, gout, bursitis and infection, such as cellulitis.

Aim of the Work: Illustrate the technical aspects, the indications and the methodology of local therapies for chronic knee pain performed by interventional radiologists and provide current evidence. Assess the efficacy of Ultrasound (US) guided corticosteroids injection and Genicular nerve block to control moderate and advanced chronic knee pain. Compare the immediate and short-term symptomatic and functional improvement obtained after both techniques.

Patients and Methods: Both procedures were performed under ultrasound guidance to identify target points for injection. GNB target points for injection where close to the superior lateral, superior medial and inferior medial genicular arteries while target point for the IACSI group was the suprapatellar bursa. All procedures were performed with a spinal needle (22 G) introduced under ultrasound guidance till reaching the desired target points at both groups. Then injection of a mixture of Lidocaine, Bupivacaine hydrochloride and Triamcinolone Acetonide was done.

Results: In our study, In IACSI group the mean of initial OKS was 48.6±7.4 compared to 50.1±7.6 in GNB group. After 2 weeks, it was markedly decreased to 25.5±3.9 and 22.7±6.8 respectively. After 4 weeks, it increased to 31.1±3.5 and 27.±6.9 respectively. At 8 weeks, it was obviously increased to 44.1±7.1 and 39.3±6.1 respectively.

Conclusion: Ultrasound guided genicular nerve block with a mixture of corticosteroid and local anesthetic is an effective, radiation free method to alleviate chronic knee pain and improve knee joint function. US guided intra-articular corticosteroid injection through suprapatellar approach is also an effective method to relive chronic knee pain and inflammation and to improve knee joint functional capacity.

Keywords: *Intraarticular Injection Corticosteroids, Genicular Nerve Block, Chronic Knee Pain.*

INTRODUCTION

Chronic knee pain (CKP), which is knee pain of moderate or greater intensity on most or all days for ≥ 3 months, is most often caused by every day wear and tear, overuse or by certain medical conditions ***(Ferdinand et al., 2017).***

Approximately 25% of adults aged over 45 years have previously experienced knee pain lasting over a month or had an episode of knee pain in the last year and prevalence increases with age ***(Cottrell et al., 2010).***