Varied Clinical Presentation and Functional Outcome by 4in1 Surgical Intervention in Osteoarthritis with Varus Deformity : A Serial Cases

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• INTRODUCTION

Osteoarthritis (OA) is the most common progressive degenerative disease in older people that involves the whole joint, including cartilage degradation, bone remodeling, osteophyte formation, and synovial inflammation, leading to pain, stiffness, swelling, and loss of normal joint function. In elderly women over 55, the risk of OA is higher than in men by a ratio of 30.7% to 15.6%. The mechanical and biochemical aspects of OA are the two main problems based on the damaged tissue. We combined four therapeutic methods including proximal fibular osteotomy (PFO) as a surgical method and then genicular block, intraosseous injection (IOI) with platelet-rich plasma (PRP) or prolotherapy dextrose, and Intra-articular injection with hyaluronic acid for the regenerative support therapy. Clinical result baseline for 1 and 3 months after surgery.

• OBJECTIVE

Nine patients presented in this case series, Patients with medial joint space narrowing and grade III or IV knee OA, as determined by Kellgren and Lawrence, met the inclusion criteria. Furthermore, they are also without inflammatory and rheumatologic illnesses like rheumatoid arthritis. Medication and conventional therapy had no effect. All patients gave their consent to take part in this trial. Patients who had irregular prolotherapy, intra-articular hyaluronic acid injections, a history of using anticoagulant medications, and total knee arthroplasty were excluded from the study. The comparison results for VAS Scores at 1 month and at 3 months, it can be found that of 9 samples, Wilcoxon test obtained a p value of 0.006 ($p<0.05$). The WOMAC score at pre and post is obtained a p value of 0.008 ($p<0.05$).

Fig 1. Clinical Finding in Osteoarthritis with Varus Deformity

Fig 2. Xray AP-Lat Knee Bilateral Showing Narrowing Joint Space at Left More than Right

	Mean±Std.deviation	Min-max
VAS (pre)	7.33±0.71	6.0-8.0
VAS (1 month)	3.44±0.88	2.0-5.0
VAS (3 month)	2.00±0.5	1.0-3.0
WOMAC (pre)	58.89±4.26	52-63
WOMAC (post)	26±2.06	24-31

	Pre Mean±Std.deviation	1 month Mean±Std.deviation	P value
VAS	7.33±0.71	3.44±0.88	0.006

	Pre Mean±Std.deviation	3 month Mean±Std.deviation	P value
VAS	7.33±0.71	2.00±0.5	0.007

	1 month Mean±Std.deviation	3 month Mean±Std.deviation	P value
VAS	3.44±0.88	2.00±0.5	0.006

	Pre Mean±Std.deviation	Post Mean±Std.deviation	P value
VAS	58.89±4.26	26±2.06	0.008

• DISCUSSION

The lateral condyle of the tibia is supported by the fibula, which causes the tibial condyles to settle unevenly with more settlement and cartilage degradation on the medial side. PFO is one of the choices of treatment OA that can be an alternative with less complication. Some studies show that PFO has significant pain relief and varus correction. The other combination treatments are Intra-articular injection with hyaluronic acid as viscosupplementation, IOI of PRP, and genicular nerve block as an inflammatory inhibitor, which makes degeneration slower

The following are some of these clinical observation case limitations:

1) The inability to perform radiographic measurements on knee X-ray pictures (Tibio-Femoral Angle before and after treatment, Joint Space Ratio before and after treatment) due to the lack of uniformity.

2) The dependent factors, such as body weight, height, and other diseases, were not taken into account in this study.

All nine of our subjects reported appreciable improvement at 3 months follow-up. The patient's knee function improves, and their level of everyday pleasure rises. Treatment for late-stage medial compartment OA may be possible with this combination of therapies.

Fig 3. Knee Xray AP Showing Joint Space Before-After Osteotomy

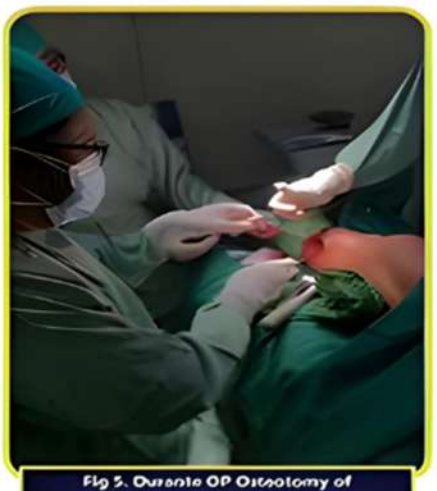

Fig 5. Durante OP Osteotomy of Osteoarthritis with Varus Deformity

Fig 4. USG Guide to Find Genicular Nerve with Golding Position of Genicular Artery

• CONCLUSION

A combination of PFO, IOI, IAI, and genicular block procedures for the long-term results revealed pain alleviation and functional improvement. This indicates that the treatment approach may be useful to treat severe OA with varus deformity and delay the need for TKA in patients for a variety of reasons.

CONTACT

REFERENCES