Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Orthopedic

To Study the Arthroscopic Management of Meniscal Injury of Knee Joint and its Functional Outcome at a Rural Care Centre

Dr. Aakash Mishra[1*], Dr. Prafulla Herode[2], Dr. Amol Sanap[3]

[1]Resident, Department of Orthopedic, Pravara Rural Medical College, Loni BK, Maharashtra, India
[2]Professor and Head, Department of Orthopedic, Pravara Rural Medical College, Loni BK, Maharashtra, India
[3]Associate Professor, Department of Orthopedic, Pravara Rural Medical College, Loni BK, Maharashtra, India

DOI: 10.36347/sjams.2022.v10i12.003 | **Received:** 12.10.2022 | **Accepted:** 19.11.2022 | **Published:** 02.12.2022

***Corresponding author:** Dr. Aakash Mishra
Resident, Department of Orthopedic, Pravara Rural Medical College, Loni BK, Maharashtra, India

Abstract **Original Research Article**

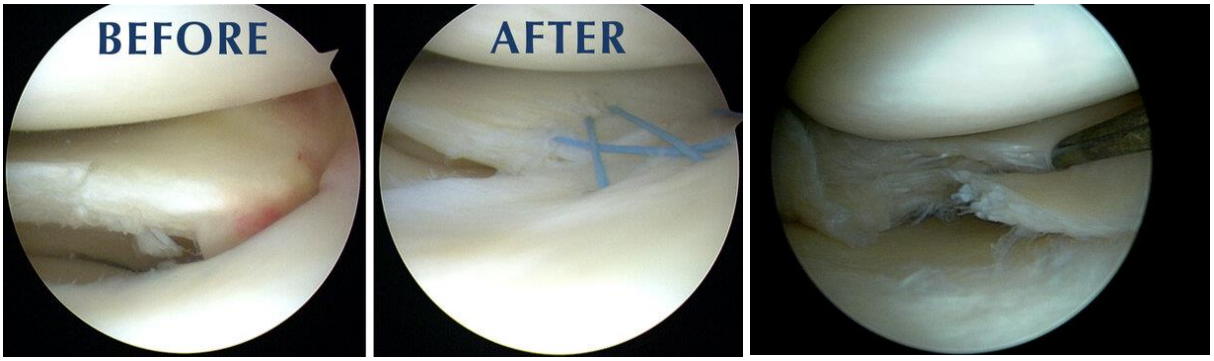
Background: Meniscal tears are the most common injury of the knee, with an incidence of meniscal injury resulting in meniscectomy of 66 per 100,000 populations per year. Menisci are essential for the normal function of the knee joint. In the modern diagnosis of meniscal injury and planning of the appropriate intervention, a good patient history and clinical examination have been supplemented with precise non-invasive imaging. Conservative approach has moved, with the correct indication, towards surgical treatment. Interestingly, the very first treatment for meniscal lesions was repair and not resection, suggesting that keeping the meniscus in place was the right approach all along. ***Aim and Objective:*** To study the Arthroscopic Management of Meniscal Injury of Knee Joint and its Functional Outcome ***Material and Methods:*** A prospective study was carried out among patients with meniscal injuries of knee joint and getting admitted under orthopaedic department at rural care center. All patients having meniscal injuries having age between 20 to 60 years, getting confirmed of meniscal injury on MRI and willing to participate were considered for the study. Thus such 50 cases were studied and evaluated. Patients with infection in and around the knee joint were excluded from the study. Data analysis was done using Software Open Epi version 2.3.1. ***Results:*** Mean age in years was 42.8±4.6. Majority 60% were females. Common mode of injury was road traffic accident (75%). Medial meniscus was commonly involved (80%). 48% cases showed good functional outcome, 32% showed excellent and 10% showed fair outcome. Complications were seen among 13% cases. ***Conclusion:*** The need to accurately evaluate the knee injuries is very crucial for the proper management and outcome; otherwise it will lead to chronic debility to the patient. Arthroscopy can accurately detect, localize and characterize various internal derangements of the knee joint and help in arriving at a correct anatomical diagnosis thereby guiding further management of the patient.

Keywords: Arthroscopic, Management, Meniscal Injury, Functional Outcome.

INTRODUCTION

Meniscal tears are the most common injury of the knee, with an incidence of meniscal injury resulting in meniscectomy of 66 per 100,000 populations per year. Menisci are essential for the normal function of the knee. In the modern diagnosis of meniscal injury and planning of the appropriate intervention, a good patient history and clinical examination have been supplemented with precise non-invasive imaging. Conservative approach has moved, with the correct indication, towards surgical treatment. Interestingly, the very first treatment for meniscal lesions was repair and not resection as almost all cases undergoing menisectomy devolop arthritic changes in future, suggesting that keeping the meniscus in place was the right approach all along [1-3]. The menisci prevent capsular and synovial impingement during flexion-extension movements. It is believed to have joint lubrication properties. The menisci have been shown to play a vital role in load transmission across the knee joint. The menisci have shock or energy-absorbing functions [4, 5]. Meniscus injuries are produced most commonly by rotation as the flexed knee moves toward an extended position. The knee is a complex synovial joint allowing flexion, extension, anteroposterior gliding and internal-external rotation. The major articular surfaces are the medial and lateral condyles of the femur and patellar surface. Four bands of tissue, the anterior and posterior cruciate ligaments, and the medial and lateral collateral ligaments connect the femur and the tibia and provide joint stability [6, 7]. Meniscal

injuries are very frequent which further decreases the joint stability. There are various methods to diagnose and manage meniscal injury, Arthroscopy is one of such [8].



A **B**

Figure: (A)- Intra-op arthroscopic image of meniscal tear repair (B) Intra-op arthroscopic image of Meniscal tear

AIM AND OBJECTIVE

To study the Arthroscopic Management of Meniscal Injury of Knee Joint and its Functional Outcome.

MATERIAL AND METHODS

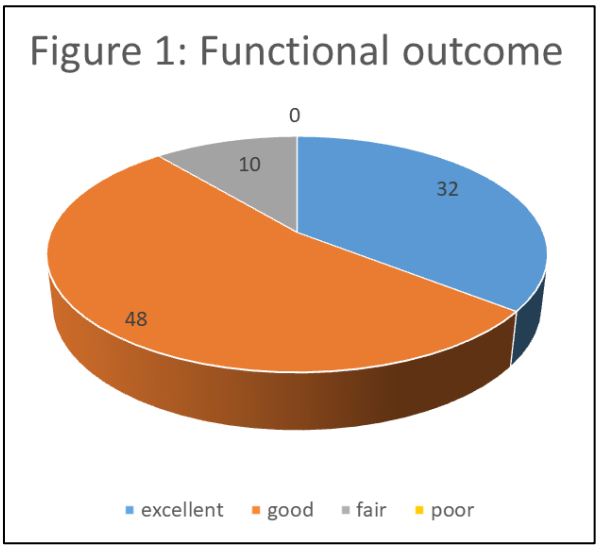
A prospective study was carried out among patients with meniscal injuries of knee joint and getting admitted under orthopaedic department at rural medical hospital, loni after IEC approval. All patients having meniscal injuries having age between 20 to 60 years, getting confirmed of meniscal injury on MRI and willing to participate were considered for the study. Thus such 50 cases were studied and evaluated. Patients with infection in and around the knee joint were excluded from the study. Data analysis was done using Software Open Epi version 2.3.1.

RESULTS

Mean age in years was 42.8+4.6. Majority 60% were females. Common mode of injury was road traffic accident (75%). Medial meniscus was commonly involved (80%).

Table 1: Meniscus involved

Meniscus involved	Frequency	Percentage
Medial	40	80%
Lateral	10	20%
Total	**50**	**100%**



48% cases showed good functional outcome, 32% showed excellent and 10% showed fair outcome. Complications were seen among 14% cases and those were Anterior Knee Pain and Knee Stiffness and infections.

Table 2: Complications

Complications	Frequency	Percentage
No	43	86%
Yes	7	14%
Total	**50**	**100%**

DISCUSSION

In present study, mean age in years was 42.8+4.6. Majority 60% were females. Common mode of injury was road traffic accident (75%). Medial meniscus was commonly involved (80%).

Gulamus *et al.*, [9] in their study showed that majority 38% were in the age group of 41 to 60 years and showed that majority 65% were males. Jun-cheng Cui *et al.*, [10] showed that mean age was 49.56 years and 60.4% were females. Lakhar *et al.*, [11] who in their study on 173 patients showed 57 (38.23%) cases with medial meniscal tears and 29.41% were lateral menical tear.

In present study, 48% cases showed good functional outcome, 32% showed excellent and 10% showed fair outcome. Complications were seen among 14% cases and those were Anterior Knee Pain and Knee Stiffness Jun-cheng Cui *et al.*, [10] showed that 70.8% had excellent outcome, 20.8% had good and 8.3% had fair functional outcome. Study by Johnson *et al.*, [12] showed that 76% had good success rate. Northmore-Ball *et al.*, [13] also showed similar results 60% success rate.

CONCLUSION

The need to accurately evaluate the knee injuries is very crucial for the proper management and outcome; otherwise it will lead to chronic debility to the patient. Arthroscopy can accurately detect, localize and characterize various internal derangements of the knee joint and help in arriving at a correct anatomical diagnosis thereby guiding further management of the patient.

REFERENCES

1. Nepple, J. J., Dunn, W. R., & Wright, R. W. (2012). Meniscal repair outcomes at greater than five years: a systematic literature review and meta-analysis. *The Journal of bone and joint surgery. American volume*, *94*(24), 2222-2227.
2. Gray, S. D., Kaplan, P. A., & Dussault, R. G. (1997). Imaging of the knee: current status. *Orthopedic Clinics*, *28*(4), 643-658.
3. Reicher, M. A., Rausching, W., Gold, R. H., Bassett, L. W., Lufkin, R. B., & Glen, W. (1985). High resolution MRI of the knee joint: Normal anatomy. *AJR*, 145, 895-902.
4. Reicher, M. A., Bassett, L. W., & Gold, R. H. (1985). High resolution MRI of the knee joint: Pathologic correlation. *AJR*, 145, 903-910.
5. Crues, J. V., Mink, J. H., Levy, T., Loytsch, M., & Stoller, D. W. (1987). Meniscal tears of the knee. Accuracy of MR imaging. *Radiology*, 164, 445-448.
6. Kaplan, P. A., Walker, C. W., Kilcoyne, R. F., Brown, D. E., Tusek, D., & Dussault, R. G. (1992). Occult fractures patterns of the knee associated with ACL tears. Assessment with MR imaging. *Radiology*, 183, 835-838.
7. Kean, D. M., Worthington, B. S., & Preston, B. J. (1983). Nuclear MRI of knee: examples of normal anatomy and pathology. *Br J Radiol*, 56, 355-361.
8. Kaplan, P. A., Walker, C. W., Kilcoyne, R. F., Brown, D. E., Tusek, D., & Dussault, R. G. (1992). Occult fractures patterns of the knee associated with ACL tears. Assessment with MR imaging. *Radiology*, 183, 835-838.
9. Gulamus, S. A., Himanshu, S., Ankit, V., & Jhala, P. J. (2015). Evaluation of knee joint by MRI in 65 patients. *IAIIM*, 2(6), 47-53.
10. Jun-cheng, C., Wen-te, W., Long, X., Zhi-wei, C., & Peng-fei, L. (2020). Efficacy of Arthroscopic Treatment for Concurrent Medial Meniscus Posterior Horn and Lateral Meniscus Anterior Horn Injury: A Retrospective Single Center Study. *Orthopaedic Surgery*, 13(1), 45-52.
11. Lakhkar, B. N., Rajagopal, K. V., & Rai, P. (2004). Erratum: MR imaging of knee with arthroscopic correlation in twisting injuries (Indian Journal of Radiology and Imaging). *Indian Journal of Radiology and Imaging*, *14*(2), 33-40.
12. Johnson, M. J., Lucas, G. L., Dusek, J. K., & Henning, C. E. (1999). Isolated arthroscopic meniscal repair: a long-term outcome study (more than 10 years). *The American journal of sports medicine*, *27*(1), 44-49.
13. Northmore-Ball, M. D., Dandy, D. J., & Jackson, R. W. (1983). Arthroscopic, open partial, and total meniscectomy. A comparative study. *The Journal of bone and joint surgery. British volume*, *65*(4), 400-404.