

MANAGEMENT OF A PARA MENISCAL CYST OF KNEE

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ABSTRACT

Lateral Meniscal cysts are 10 times more common than the medial meniscus cysts. Trauma is the main cause for these meniscal cysts. 32 years old female came with complaints of pain and swelling the inner aspect of left knee and had a previous history of trauma 3 years back. On examination a swelling of size 3x1 cm was seen on the medial aspect of the right knee. MRI diagnosed a tear in the posterior horn of the medial meniscus with a parameniscal cyst adjacent to the medial meniscus. Arthroscopically through posterior trans septal approach, the medial parameniscal cyst was surgically resected and the meniscal tear repaired. If a meniscal cyst is arising from the posterior horn of the medial meniscus, arthroscopic posterior trans-septal decompression and resection and repair of the meniscus is a suitable surgery.

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INTRODUCTION

Meniscal cysts are rare and mostly asymptomatic. When the meniscus is injured, a small cyst can form adjacent to the tear. This can cause pain upon knee movement. Rarely in the aged degenerative tears can also cause cyst formation [1]. Trauma leads to hemorrhage formation within the meniscus which leads to mucoid degeneration. Finally, local necrosis and mucoid degeneration forms a cyst. Later extrusion of synovial fluid occurs through the tear of meniscus. Pain is especially felt in the erect posture and tenderness along the joint line. Cysts usually become more apparent when the knee is extended. Rarely it may cause symptoms of knee locking. When the cyst extends beyond the meniscal margins they are termed as parameniscal cyst [2]. The cysts of medial meniscus usually are along the posterior aspect of posterior horn and those of lateral meniscus are along the anterior or anterolateral aspect of the anterior horn or body.

The differential diagnosis of the cyst include synovial cyst, bakers cyst [3], ACL and PCL ganglion cyst, Hoffa fat pad ganglion cyst, periosteal ganglion cyst, nerve sheath ganglion cyst, common peroneal nerve sheath ganglion cyst, subarticular degenerative cyst of Geod, intraosseous ganglion cyst, insertional cyst and infective cyst [4].

Case presentation

32-year-old female came with complaints of pain and swelling the inner aspect of the right knee. She had a history of trauma 3 years back in the form of slip and fall from a stair case. Upon examination a swelling of size 3x1cm was seen around the medial knee joint line. There was low grade pain and it was insidious in onset. Duration was for 10 months. Patient had difficulty in flexing the knee beyond 90 degrees. Plain x-ray of knee antero-posterior and lateral views showed soft tissue swelling at the location. MRI study revealed a horizontal tear in the posterior horn of the medial meniscus and a sub-adjacent parameniscal cyst.

Procedure

After obtaining anaesthetic fitness, patient was taken-up for parameniscal cyst resection and meniscal repair arthroscopically. Under spinal anaesthesia patient was positioned in supine, and with the knee in 90° flexion. Entry portals were made. Anterior cruciate, posterior cruciate ligaments and lateral meniscus were found to be intact. A cyst like lesion was found in the edge of the posterior part of the medial meniscus, but the surface of the medial meniscus was found to be intact. For making a trans septal portal, routine postero lateral and postero medial portals were created. A rod with sheath was inserted in to the septum, through the posterolateral portal and the arthroscope was inserted through

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the posteromedial portal. The septum was perforated with the help of k-wires and then a switching rod was inserted from the posterolateral portal to the posteromedial portal through the trans septal port. Arthroscope and instruments are easily interchangeable through the posterior portals because of the trans-septal port. Viewing from the posteromedial port the cyst and posterior septum was resected by a punch and motorized shavers which were inserted from posterolateral port. The tear in the medial meniscus was then sutured. Patients was put on iv antibiotics (cefotaxime with sulbactam 1.5 gm BD) for 72 hours and a Robert Jones compression bandage was applied from mid-calf to mid-thigh after suturing the portals. Sutures were removed on the 10th POD and mobilization exercises started. Patient recovered full painfree ROM within 3 weeks postop. In 1 year of follow up, there was no evidence of recurrence and patient was symptom free.

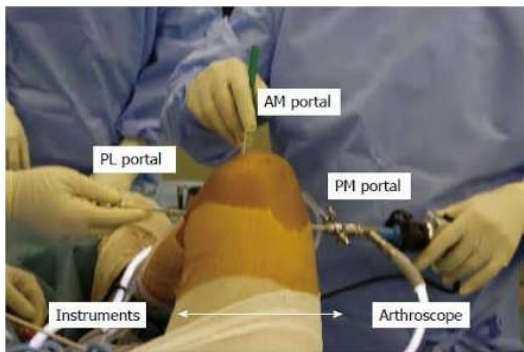


Fig 1 Arthroscopic portals used for the procedure

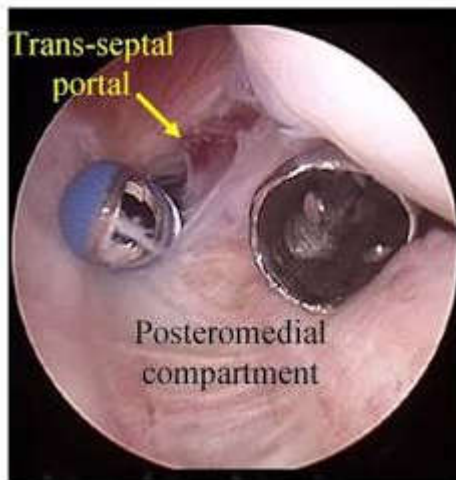


Fig 2 showing the Trans-septal portal visualized from inside the knee



Fig 3



Fig 4

MRI imaging of Right knee showing the cystic lesion in the saggital and coronal cuts

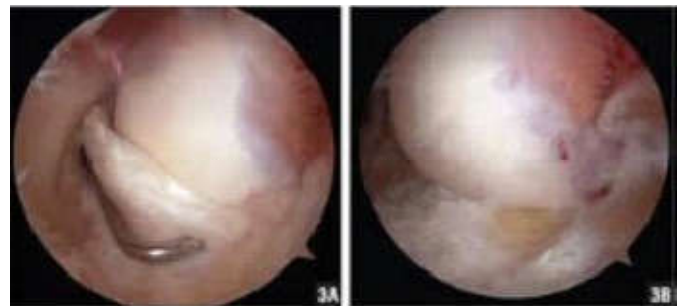


Fig 5

Fig 6

Arthroscopic picture showing pre and post cystectomy status

DISCUSSION

The size of the medial parameniscal cyst are usually <10mm (range from 0.4mm to 10mm) [5]. Earlier meniscal cyst was managed by open arthrotomy and resection. In our case, through arthroscopic resection of medial parameniscal cyst by a posterior trans septal approach we have shown good results without any post -operative complications, This was done as per technique described to Howe TS[6].

In our case the cyst size was 30mm x 10 mm and hence symptomatic. It is imperative to repair the tear in the meniscus or else there is a chance of recurrence. MRI is the gold standard for distinguishing between other intra-articular knee cysts and meniscal cysts.

CONCLUSION

We concur with the study of Hitesh *et al* [7] that if the meniscal cyst is arising from posterior horn of the medial meniscus, a posterior trans-septal approach is the best approach for resection of the meniscal cyst arthroscopically and subsequently for the meniscal repair.

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