## **Case Report**

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# A case report on chronic massive pre-patellar bursa

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### **ABSTRACT**

Inflammation of the pre-patellar bursa results in bursitis that is trouble free in most of the instances. It is most commonly caused by trauma to the knee, either by a single instance or by repeated trauma over time. Often they are associated with minimal swelling, very rarely do they present with large cystic swelling. Here, we present a case report on a large pre-patellar bursa in an elderly gentleman. Operative excision of the bursa was done in view of a sudden increase in size and pain. The biopsy revealed features of chronic bursitis. He had no recurrence of swelling or wound complications at follow-up.

Keywords: Pre-patellar bursa, Bursectomy, Knee bursa

## INTRODUCTION

A bursa is a small sac of fibrous tissue with a thin synovial lining that is filled with fluid. Inflammation of the bursa in the prepatellar region is due to repetitive friction or trauma. The entity is referred with various eponyms referring to the occupation. The most common clinical features are pain, swelling with or without redness, difficulty in kneeling and walking. The mainstay of treatment has been conservative in asymptomatic and individuals with mild to moderate symptoms. A number of conditions have been known to be associated with a pre-patellar bursitis syphilis, gout, rheumatoid arthritis, tuberculosis and even malignancies like malignant fibrous histiocytoma. The predominant mainstay of treatment is conservative in the form of analgesics, supportive therapy to avoid repetitive trauma and treating the underlying etiology. There are two operative modalities available open bursectomy and arthroscopic bursectomy. The arthroscopic bursectomy offers the choice of being minimal invasive. Here, we describe a case of massive pre-patellar bursa managed with open bursectomy.

## **CASE REPORT**

An 87-year-old male patient with no underlying co-morbid conditions, presented to our outpatient department with

complaints of pain and swelling in the left knee. Patient noticed a small painless swelling over the anterior aspect of the left knee joint 10 years back which gradually increased in size over a period. Patient gives history of pain since 2 weeks. There were no episodes of fever or constitutional symptoms (loss of weight/appetite/night pain). On examination, there was a 15 cm  $\times$  7 cm globular swelling over the anterior aspect of the left knee with welldefined borders (Figures 1 and 2). The swelling was warm, tender on palpation, cystic inconsistency, fluctuant, and non-reducible. Trans-illumination test was negative. The swelling was not fixed to underlying structures (patella). There was no tenderness in the joint line, and the range of motion of the knee was within normal limits. The swelling did not hinder the knee movements. There was no neurovascular deficit.

His blood investigations were within normal limits for his age. The X-ray of the knee showed normal knee joint space except for soft tissue shadow in the supra patellar region with specks of calcification (Figures 3 and 4). In view of increasing size of the swelling in recent years with associated pain, we planned for excisional biopsy of the swelling. Differential diagnosis

- Tuberculous bursitis
- Tumors Malignant fibrous histiocytoma
- Chronic pre-patellar bursitis.

The routine blood investigations were within normal limits for his age. In view of increasing size of the swelling in recent years with associated pain, we planned for excision biopsy of the swelling. After pre-operative work-up, the mass was excised near in-total. The specimen was sent for histopathological examination. Post-operatively patient was given a long-leg knee brace till suture removal, and gradual knee movements were initiated from 7<sup>th</sup> post-operative day onwards, to allow soft tissues to heal.

His biopsy revealed non-specific inflammation with cholesterol clefts and dystrophic calcification. There was no evidence of any malignant change or evidence of granulomatous lesions - tuberculosis (Figure 5). He was on regular follow-up with us at 6 weeks, 3 months and lastly up to 18 months. He had full range of knee movements and no recurrence of swelling or pain.

### DISCUSSION

Bursa is a sac-like structure that is strategically placed so as to alleviate friction in parts of the body that are prone for. They are normally found around the patella, olecranon, ischial tuberosity and greater trochanter. They mainly serve to cushion the movement of one part of the body over the other. They may get inflamed and enlarged due to many causes producing pain and swelling at the site. Chronic



Figure 1: (a and b) Clinical picture showing the prepatellar cystic mass.



Figure 2: (a and b) X-ray shows normal knee joint space with presence of soft tissue shadow in the supra patellar region with specks of calcification.

aseptic bursitis usually develops following repetitive/ friction trauma, which usually present with pain at the site and only very minimal swelling. They are coined with various eponyms students elbow (olecranon bursitis), tailors bottom (ischial bursitis), housemaid's knee (infrapatellar bursitis).<sup>2,3</sup>

The pre-patellar bursitis is classically described as a chronic aseptic inflammatory bursitis developing in the pre-patellar area referred with eponym carpet layers knee. It does not present with much swelling; however, case reports of large pre-patellar bursa were referenced among Huasa tribe of the Savannah region of the Northern Nigeria. This presentation of large pre-patellar bursa in this tribal group has been attributed to kneeling to grind corn.<sup>1</sup>

The various other causes which need to be thought about in chronic pre-patellar bursitis are bursa secondary to rheumatoid arthritis, gout, tuberculosis, pseudogout, subcutaneous sarcoidosis infiltration, chronic pre-patellar Morale–Lavelle<sup>4,5</sup> and xanthomata.<sup>1</sup>

Traumatic or frictional bursitis either type usually responds to conservative treatment. The conservative line of management consists of applying cryotherapy, bandages and anti-inflammatory drugs. In bursas that are large, aspiration can be attempted. However, there is a high chance of recurrence with repeated attempts of aspiration that warrants surgical excision.<sup>2</sup>

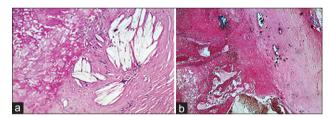


Figure 3: (a and b) Histopathology slide pictures showing non-specific inflammation with cholesterol clefts and dystrophic calcification.

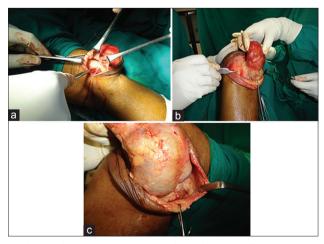


Figure 4: (a-c) Intra-operative pictures of the mass being dissected.



Figure 5: Excised mass.

Excision of the bursa surgically is indicated in cases of the recurrent bursitis, large size of the swelling, infection<sup>6</sup> and suspected malignant change. The classically described method is the open method of excision of the bursa. The open method poses several problems to wound healing as the incision may compromise the vascularity of the overlying skin and paresthesia around the surgical scar. There may be problems with rehabilitation of the knee. In order to achieve superiority over such shortcomings, endoscopic resection of the bursa has been researched and succeeded by various authors. <sup>47,8</sup>

Quayle and Robinson<sup>8</sup> have suggested excision of the posterior half of the bursa so as to prevent damage to the underlying skin. Witonski<sup>4</sup> has described endoscopic removal of the bursa with good cosmetic results reduced operative time, procedure required only local anesthesia and was done as a day care procedure. Huang and Yeh<sup>7</sup> managed bursitis with endoscopic bursectomy under infiltration of local anesthetic recommends the same to be done as a day care procedure.

Here we report a case of a large pre-patellar bursa which is quite uncommon in the older age groups. We have managed this patient with open surgical excision of the bursal mass in view of recent progression in the size associated with pain. He was on regular of follow-up post-operatively, with preserved normal knee range of movements.

## **CONCLUSION**

Chronic pre-patellar bursitis is a long standing complication in case of a patient with repeated micro-trauma to bursa.

Currently, the management depends on the symptoms the patient. However repeated swelling, swelling restricting the joint motion, suspected infection and malignancies might need operative modality of treatment. Our patient had a long-term swelling which was asymptomatic. He presented to us with a sudden increase in size associated with pain that necessitated an excision biopsy. Patient was followed up to 18 months there was no recurrence of swelling or pain over the left knee. Although chronic prepatellar bursa may remain asymptomatic, sudden increase in size of the swelling will warrant a surgical excision to exclude secondary complications like malignant change.

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