



Case Report

Large Pre-Patellar Cyst Following Long Standing Mechanical Trauma: A Case Report

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ABSTRACT

We report a case of an unusually large cystic swelling arising from the pre-patellar bursa. This 45 year old female patient was a bilateral amputee (left side below knee and right side above knee) who was ambulatory on all four limbs.

Keywords: cystic bursitis, pre-patellar bursal cyst, large cyst.

INTRODUCTION

Inflammation of pre-patellar bursa is relatively common in persons with specific occupations due to repeated trauma/stress.^[1] The commoner symptoms associated with an inflamed bursa are pain, swelling, redness and inability to use the affected joint. Treatment for such inflammatory bursitis is rest with analgesics and antibiotics. Larger bursas and chronic infection sometimes may not respond to this treatment and may need excision.

Continuous and repeated pressure on the knee may cause cystic changes in bursa and large cysts arising from bursas have been reported in the past.^[2,3] We hereby report a rare case of a large cystic swelling arising from pre-patellar bursa. The case uniquely had arisen in a patient who has been ambulant on the affected knee since

last 42 years without any problems. Traumatic event 3 months ago has triggered such an extension of bursa into a cystic swelling. No similar case has been reported in the literature.

CASE REPORT

A 45 year old female presented with swelling over the anterior aspect of her left knee since 3 months. She had undergone bilateral lower limb amputation (right side above knee amputation and left side below knee amputation) at the age of two, following road traffic accident. She had adopted herself and was ambulant and was using all four limbs (quadrupedal gait) for this purpose since the age of three years. A teacher by profession, she had adjusted well to her disability and her activities of daily living were unaffected until she met with

another accident and sustained blunt injury to her left knee 3 months ago. She was evaluated for the same and was advised analgesics as there were no major injuries. Patient however noticed development of swelling over the knee which was gradually increasing in size. With further consultation from the local surgeon the swelling was aspirated with a needle. The swelling showed no signs of regression after this and continued discomfort associated with the swelling led her to us for further management.

On examination she had single oval swelling over the anterior aspect of left knee

centering over the patella measuring about 10x12x 6 cm in dimension. The surface of the swelling was smooth and it had well defined margin. There was an area of dark pigmentation on the under surface of swelling, probably because of previous weight bearing. The swelling was non tender on palpation, cystic in consistency and fluctuation could be demonstrated. There were no signs of inflammation or pressure related changes in affected limb and full range of movement was present in the involved joint. [Figure 1 A and B]



FIGURE 1 A & B: Pre-patellar bursal swelling over knee joint.

Radiological examination: Demonstrated soft tissue shadow on anterior aspect of left knee and there was no evidence of calcification or involvement of knee joint [Figure 2 A and B].



FIGURE 2 A & B: X-ray of knee joint showing soft tissue shadow without calcification.

After history and physical examination with a provisional diagnosis bursal cyst or ganglion, she underwent excision of swelling [Figure 3 A and B]. Through an incision over the swelling the base of the swelling was defined. The cyst was filled with haemorrhagic fluid and was

seen arising from the pre-patellar area. The swelling was completely excised along with the pre-patellar tissue leaving the extensor mechanism intact. Hemostasis was achieved and the expanded skin was reduced appropriately before final closure [Figure 4].

There was no communication with the knee

joint.



FIGURE 3 A & B: Per-operative images showing pre patellar bursa being excised.



FIGURE 4: Post operative image of knee joint .

Histopathological examination of swelling confirmed our preoperative diagnosis of bursal cyst. The cyst wall showed chronic inflammatory changes and there was no lining epithelium.

Post operative events were uneventful and she was discharged on the 2nd postoperative day.

DISCUSSION

Bursa is a fluid filled structure that is strategically arranged either between skin and tendon or tendon and bone. Its function is to reduce the friction between different parts of the body, which are normally subjected to constant and repetitive loading. These bursas can not be palpated on routine physical examination. When subjected to

repeated stress and loading sometimes they may develop inflammatory changes. These inflamed bursas usually have swelling and may have other signs of inflammation including pain and restriction of joint movement. An acute attack of bursitis can be managed conservatively with analgesics and rest.

If the stress is continued for a prolonged period, patient may continue to have sub acute attacks of inflammation leading chronic bursitis. Such swelling have been described by different eponyms like housemaid knee, student elbow or tailors bottom [4] depending upon their location.

Chronic non inflammatory involvement of pre-patellar bursa is commonly seen in carpet layers is called as housemaid's knee.[5] In normal persons pain is the commonest symptom. Due to the associated pain these patients seek early treatment. Large bursas have been known in patients who either have lack of sensations/ pain, are mentally retarded to report them, or when there is lack of medical facilities.[6,7] There is a series of such cases reported from northern Nigeria and was associated with the practice of kneeling while grinding corn between two heavy stones causing chronic mechanical trauma.[7] Treatment of these non-inflammatory bursas is aspiration with

or without injection of steroids to obliterate the cavity. Larger ones need complete excision of the sac.^[8] Septic bursitis usually follows infection and needs staged management of drainage followed by excision of sac as a second procedure once the inflammation settles.^[9]

The patient presented was well adjusted to her existing gait pattern with the amputated limbs and was ambulant for last 42 years without any problem. The massive bursa in our case was secondary to trauma, however her unusual gait pattern bearing the most of her weight on the knee must have helped early progression of her massive swelling. After the appearance of the swelling however it was reported early due to the difficulty in mobility because of the size and location of the swelling. Due to its size we felt that excision of the cyst was only appropriate treatment.

Excision of the bursa proved to be adequate to restore her previous gait pattern. The patient has been counseled for prosthetic fittings in the future for improving her mobility.

CONCLUSION

The case highlights the fact that in patients who are predisposed to repeated traumatic events can develop massive bursal swellings impeding their mobility. Early identification of such cases and adequate changes in the gait pattern at an early stage may prevent the subsequent need for surgical interventions. However if a bursal swelling does occur early surgical treatment may be considered as they are unlikely to be

amenable to conservative management or techniques like needle aspiration.

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