

## Case Report: A diagnostic dilemma for a large pre-patellar swelling

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### Abstract

Bursitis is a common cause of lower extremity pain in patients presenting to primary care physicians. However hemorrhagic prepatellar bursitis is considered to be one of the rare differential diagnoses of swellings around the knee and its diagnosis both clinically and radiologically can be difficult. We present a rare case report of a 60-year-old female patient with complaints of swelling and pain over her right knee for past two year. An initial diagnosis of prepatellar bursitis was made and aspiration of the swelling was done which revealed blood. After further investigations a final diagnosis of hemorrhagic prepatellar bursitis was made which was treated with complete excision and the patient was completely relieved of her symptoms.

**Keywords:** Prepatellar Swelling; Bursitis; Housemaids Knee; Chronic Bursitis

### 1. Introduction

The prepatellar bursa is located subcutaneously and is a normal structure present in most people. Its function is to facilitate movement of the skin over the anterior knee. Prepatellar bursitis, also known as housemaid's knee, is an occupational excessive fluid collection in the potential prepatellar bursal space and is a common cause of swelling and pain above the patella. In the general population, bursitis is felt to be due to either acute trauma from a single blow or from chronic irritation. The other causes of prepatellar bursitis include infection or low-grade inflammatory conditions, such as gout, syphilis, tuberculosis, or rheumatoid arthritis. We present an unusual case of massive bilateral traumatic haemorrhagic prepatellar bursitis managed with surgical excision and describe our operative findings. Similar Case report of bilateral hemorrhagic bursitis has been published by Magurie et al in Cureus Springer Nature Journal in 2024.

### 2. Case Report

A 60-year old female presented to our hospital with complaints of swelling over the Right knee since two years with increase in size of swelling and difficulty in walking since 2 years. there was no history of trauma, loss of weight or similar swellings elsewhere in the body. On clinical examination of the right knee, there was globular swelling measuring 13\*10\*7cm having a variegated consistency of firm, hard and cystic at places which was non-mobile and non-tender with no overlying skin changes. swelling was then aspirated and bloody contents were collected. The initial diagnosis of Liposarcoma was made. MRI with contrast was done which was suggestive of Chronic Hemorrhagic prepatellar bursitis with need to rule out neoplastic etiology. Patient was then planned for Wide Local Excision under Spinal Anesthesia, specimen was sent for Histopathology which confirmed the diagnosis of Chronic hemorrhagic bursitis. After 2 weeks of surgery, with continued physiotherapy, patient was discharged. Microscopic examination revealed a sac-like structure comprised of hyalinised fibro-connective tissue filled with organised haematoma. There were no signs of malignancy or infection. The clinical, intraoperative and histopathologic findings were consistent with a diagnosis of chronic unilateral haemorrhagic prepatellar bursitis. Patient was under follow up for 2 years, there are no signs of local recurrence.

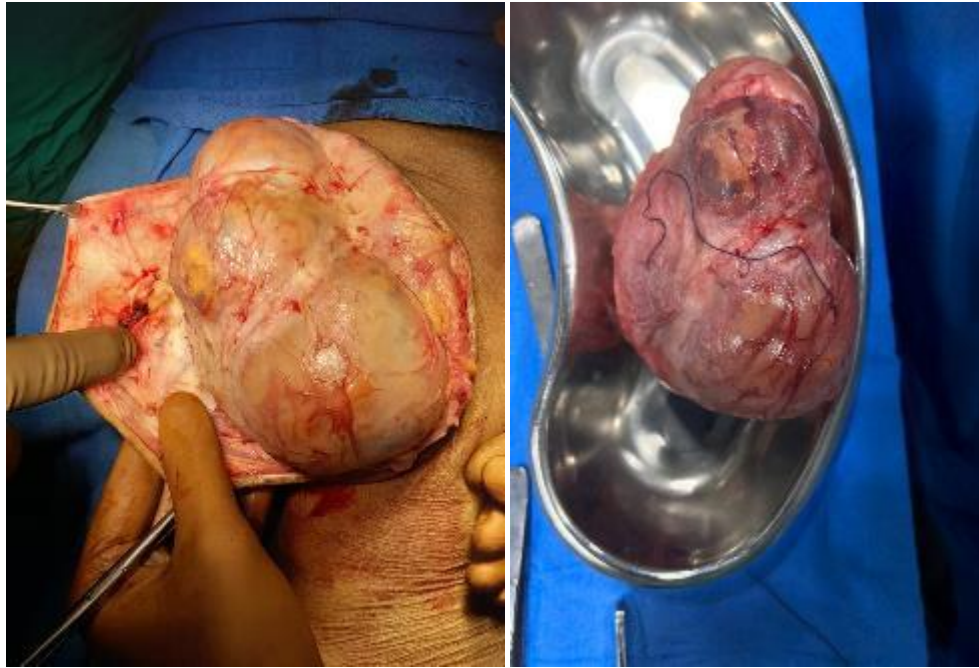
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**Figure 1** Swelling over the right knee.



**Figure 2** MRI images of swelling



**Figure 3 and 4** Wide local excision of swelling

### 3. Discussion

Normal bursa is lined with large and delicate blood vessels which, upon direct trauma, can rupture causing a large acute prepatellar bursitis revealing gross blood upon aspiration. However, it is thought that lesser degrees of repeated trauma could lead to an acute inflammatory response and excess bursa fluid production, and therefore a straw-coloured aspirate. Prepatellar bursitis is a common cause of anterior knee pain. Differentials of this condition include patellar subluxation/dislocation, apophysitis, tendonitis, patellar tracking disorders, arthritis (osteoarthritis, rheumatoid arthritis, or septic arthritis), gout and pseudogout, cellulitis/other soft tissue infections, and rarely, neoplasms such as pigmented villonodular synovitis (PVNS) or local bone or soft tissue tumours. It is therefore important to examine the patient thoroughly, use appropriate imaging, and, if necessary, perform a biopsy for histopathologic analysis. Management of prepatellar bursitis is usually treatment of the acute symptoms with ice, compression, anti-inflammatory medication, immobilisation and antibiotic treatment for severe inflammatory or infected cases. Surgical excision of bursae is not commonly recommended or required, and there is no consensus on the optimal treatment of prepatellar bursitis. In our case, the patient did not experience direct trauma still, the contents of the bursa were haematoma. It was previously reported that the more long-standing the swelling of the bursa, the less likelihood that blood would be found at any acute recurrence.. In addition, it is suspected that the occupational factor (i.e., repetitive bursae trauma or irritation through direct loading in a kneeling position) has led to chronic inflammation in the bursae wall, thereby increased difficulty in blood products being absorbed by the synovial membrane. A case has been reported by Magurie et al in Springer Nature 2024 where they had bilateral prepatellar bursitis and they had a case with history of repeated trauma, for which they have performed multiple needle aspirations, whereas in our case patient had unilateral prepatellar bursitis, without any history of trauma, with single aspiration followed by surgical excision.

### 4. Conclusion

The main aim is to create awareness of this rare condition. MRI can aid in the diagnosis of Chronic Pre Patellar Haemorrhagic Bursitis and Wide Local Excision is therapeutic. In order to prevent prepatellar bursitis you should avoid injury or an overload of your muscles. It is very important to do an appropriate warm-up and cool down, while playing sports. For example, if you play volleyball, it is advisable to wear knee pads. This will prevent falling on the kneecap. Also when you spent a lot of time on your knees it is advisable to wear knee pads. Another important thing to avoid prepatellar bursitis is to check if the flexibility of the knee and the strength and endurance of the leg muscles stays optimal.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

### *Statement of informed consent*

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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