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Case Report

Prepatellar Bursitis: A Complication of Arthroscopic Surgery of the Knee Due to a Lost Meniscal Fragment

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Summary: The case report of a patient with prepatellar bursitis resulting from a retained meniscal fragment following arthroscopic surgery is presented. The potential for the development of this condition is explained based on the anatomic position of the prepatellar bursa and its relationship to the arthroscopic portals. **Key Words:** Prepatellar bursitis—Meniscal fragment—Knee.

Complications related to arthroscopic surgery of the knee have been well documented in the literature (1–3). In a study by the Arthroscopy Association of North America, the complications in 375,000 cases were tabulated. This article describes a local condition that has not been previously reported, i.e., prepatellar bursitis secondary to a lost meniscal fragment.

CASE REPORT

A 32-year-old white man was initially seen with complaints of a painful left knee which began suddenly a few days previously; symptoms were localized to the medial aspect of the knee. He stated that something seemed to be stuck in his knee, which he could alleviate by shaking or manipulating the knee joint. This locking sensation occurred a number of times per day during a 4-day period. There was no swelling associated with this problem and he had no other difficulty ambulating.

He was admitted to the hospital for arthroscopic assessment of the knee joint, which revealed some mild degenerative changes in his medial femoral condyle and a parrot-beak tear of the posterior horn of the medial meniscus. This torn segment was excised using sharp dissection. A meniscal grasper was then placed into his knee joint, and the fragment was amputated from the main substance of the meniscus. During the process of retrieval, the fragment was not easily removed from the knee joint. To facilitate removal, the capsular incision of the inferomedial portal was enlarged using a knife under direct vision. Despite this, the fragment was lost, presumably in the subcutaneous tissue. The joint was reinspected through the superomedial, inferomedial, inferolateral, and posteromedial portals, but the fragment could not be visualized within the joint. Examination of the inferomedial portal from within the joint did not reveal the fragment. As there was a significant amount of subcutaneous edema in the area of the inferomedial portal, the decision was made to terminate the procedure and allow the swelling to subside, and at a later date, remove the subcutaneous fragments.

The patient returned 2 weeks postoperatively for reassessment, and it was noted at that time that he had developed a prepatellar bursitis and a small joint effusion. It was believed at this time that the patient's meniscal fragment might be in the bursa causing irritation. The patient returned approximately 4 weeks postoperatively with a continued prepatellar bursitis. At that time, the bursa was aspirated of ~ 50 cc of blood-tinged fluid and injected with 10 mg of triamcinolone. The patient returned

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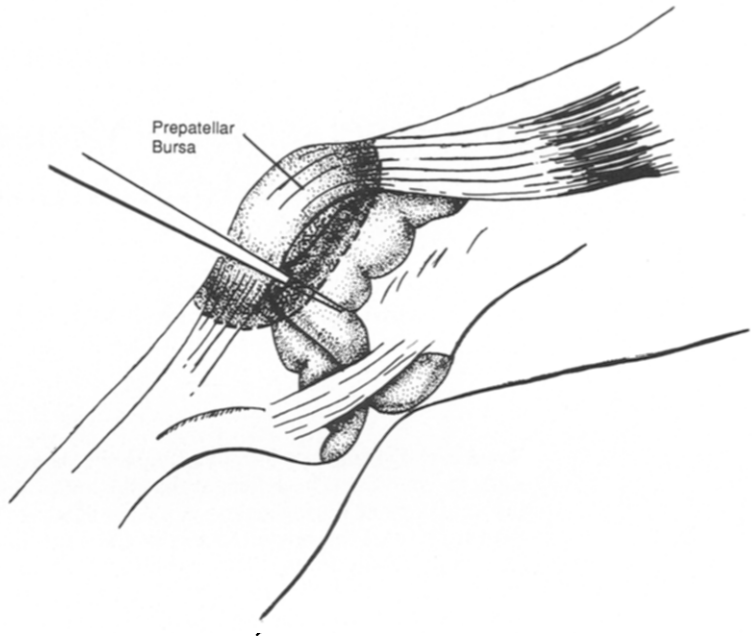

FIG. 1. Diagramatic sketch of the anatomic position of the prepatellar bursa to the infrapatellar arthroscopic portals.

again ~2 weeks after his injection and, at that point, the prepatellar bursitis was remarkably diminished and a meniscal fragment could be palpated within the bursa. The fragment, which measured 6 × 15 mm, was removed from the bursa with the patient under a local anesthetic. He had no further problems with his knee.

DISCUSSION

Local complications of retained meniscal fragments after arthroscopic surgery have not been well documented in the literature. Oral communications indicate that loss of meniscal fragments occur on a relatively regular basis; these are usually confined to the joint itself. However, soft-tissue loss of the fragments certainly has been mentioned in the literature. To our knowledge, the development of a prepatellar bursitis secondary to this event has not yet been reported in the literature.

In our experience, the prepatellar bursa varies in size and position. The bursa anatomy has been evaluated at the time of total joint replacement and also by observation of patients with traumatic or infected prepatellar bursitis; an insufflation technique has been used as well. In general, three-quarters of the bursae could be categorized as large, that is, they extend inferior to the inferior pole of the patella and approximately to the most superior pole of the patella (Fig. 1).

In the other one-fourth, the bursa does not extend beyond the periphery of the patella. However, with increasing insufflation pressure, the bursa can then extend beyond the periphery of the patella in nearly all cases. It is safe to say that in the majority of cases, the bursa extends inferiorly enough so that it is penetrated by the modified Gillquist inferolateral portal. With significant extravasation of fluid at this portal site, the bursa can expand to the site of the inferomedial portal if that portal is located lateral to a line drawn longitudinally along the medial border of the patella to the joint line.

Hadied (1) reported a case of a fistula between the knee joint and the prepatellar bursa based on the above anatomic fact. Our patient developed a prepatellar bursitis secondary to the irritation of the meniscal fragment. Following removal of the fragment, the prepatellar bursitis subsided, and there was no recurrence 1 year postoperatively.

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