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Case Report

HERNIATION PIT RELATED HIP PAIN: A CASE REPORT

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ABSTRACT

Herniation pit is a round, radiolucent lesion with a well-defined margin in the cortical bone on the antero-lateral side of the femoral neck. An asymptomatic lesion, it is incidentally found on simple radiography. Sometimes this lesion is the cause of hip pain, but surgical procedure is very rarly needed. Here we are presenting a case report of a 24-year-old male who presented with symptomatic herniation pit and needed surgery. As shown in the current case, there were no cases for which a curettage has been performed through the expansion of the orifice of herniation pit using arthroscopy. At a 11-month follow-up, the patient had no recurrent episodes.

INTRODUCTION

Herniation pits of the femoral neck are common incidental finding of simple radiographs and asymptomatic benign conditions in general. But sometimes they are the cause of hip pain.[1] When the hip pain cannot be controlled with conservative method, we consider solving the problem surgically. Here we offer a minimal invasive method to take off symptomatic herniation pits and review of literatures.

Case

A 24-year-old man visited us with a chief complaint of a 2-year-history of the left hip joint pain. The patient told us that the pain was aggravated during exercise but did not completely disappear at rest. The patient had an onset of symptoms while serving in the army, but did not enjoy playing sports. On physical examination such as Patrick test or impingement test, the patient had no notable findings. On imaging studies, the patient had a well-defined, round radiolucent shadow with a radiosclerotic margin of 8 mm in diameter the antero-lateral middle portion of the left femoral neck (fig 1). On MRI and CT scans, the patient had findings that are suggestive of herniation pit(fig 2). Unless otherwise noted, the patient had no other lesions. We attempted to reduce the pain with the administration of NSAID, but in vain. We therefore attempted to perform a diagnostic and surgical arthroscopy. On arthroscopy, the patient had no notable lesions in the left hip joint. In addition, the patient normal findings in the labrum or ligamnetum teres. With the insertion of an arthroscope in the femoral neck, we observed a herniation pit. In the cortical bone, there was a tiny orifice that had a connection to the interior side. With the expansion of this hole, we removed the synovial tissue that was present on the interior side(fig 3). Since the following day of surgery, the patient had a decrease in the resting pain. On postoperative week 2, the patient had a residual presence of pain during gait. Overall, however, the patient had a decrease in the pain. Over the next two months postoperatively, the patient had a decrease in the pain. Thus, symptoms completely disappeared. At a 11-month follow-up, the patient had no recurrent episodes.

Fig 1 There is a well-defined, round radiolucent shadow with a radiosclerotic margin of the antero-lateral middle portion of the left femoral neck

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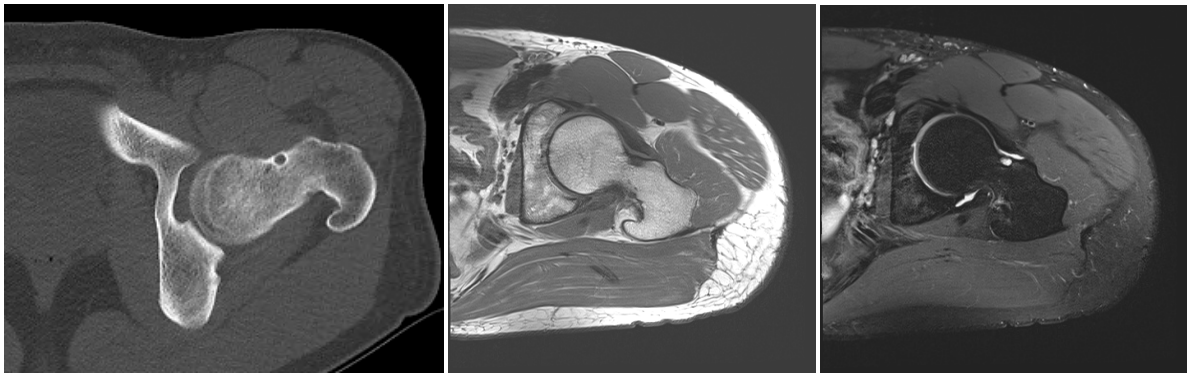

Fig 2 Herniation pit is showed a subcortical bony defect on CT(a), low-signal intensity on T1-weighted MRI(b) and a high-signal intensity with a low-signal margin on T2-weighted MRI(c).

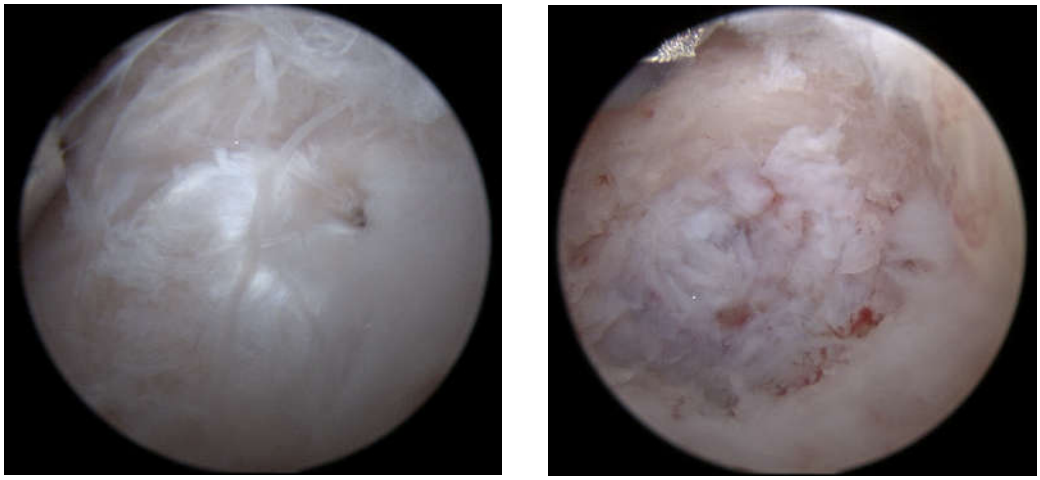

Fig 3 In arthroscopic view, a tiny orifice that had a connection to the interior side is found(a). The tissue is removed in the cavity after widen the orifice(b).

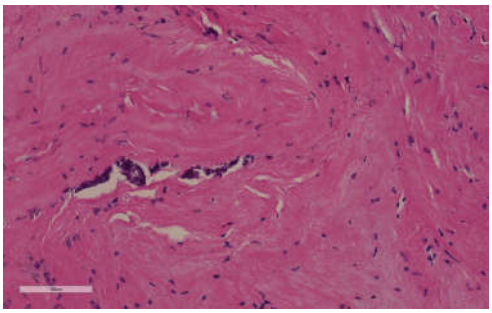

Fig 4 Microscopic examination revealed fibrous tissue with degeneration (hematoxylin and eosin X400).

DISCUSSION

Herniation pit is a round, radiolucent lesion with a well-defined margin in the cortical bone on the antero-lateral side of the femoral neck. An asymptomatic lesion, it is incidentally found on simple radiography.[1] It accounts for approximately 4-5% of total adult cases and shows a male predilection. Its incidence shows an age-dependent increase. Most cases in this series are known to be asymptomatic.[2,3] The antero-superior part of the femoral neck has been termed as the reaction area by Angel.[4] It is greatly burdened with the mechanical stress from the thick articular sac, the rectus femoris muscle and and the tendon of the psoas muscle. Such mechanical stress cause changes in the response of the soft tissue, thus causing a herniation pit.

cause a loading to this site**.** This may be one of the causes of the enlargement of lesions, as previously reported.[1,5] As shown in the current case, on histopathologic examinations, there were degenerative fibrous tissues(fig 4). This might be due to the degeneration that occurred as a result of the compression or friction due to the iliofemoral ligament or iliopsoas tendon in the adjacent areas to the reactive area. As round, radiolucent lesions that are formed in the femoral neck, differential diagnoses include osteoid osteoma, chronic abscess, intaosseous ganglion, focal avascular necrosis and atypical metastatic disease. It would be of great help for making an accurate diagnosis of herniation pit to use the state-of-the-art imaging modalities such as a CT or an MRI.[6] Herniation pit shows a low-signal intensity on T1-weighted MRI scans and a high-signal intensity with a low-signal margin on T2-weighted ones. On CT scans, it is identified as the round bone defect between the cortex and the subcortical area.[6,7] A bone scan shows that it has multiple shapes. In the current study, however, we did not perform it.

To date, several cases of herniation pit with clinical presentations have been described in the literature. Moreover, there are also reports that a surgical curettage was effective in reducing the hip joint pain in patients who are refractory to conservative treatments.[5,8] As shown in the current case, however, there were no cases for which a curettage has been performed through the expansion of the orifice of herniation pit using arthroscopy. To our knowledge, our case deserves special attention. Here, we report our case with a review of

literatures.

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