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Iliopsoas Bursitis after Transfemoral Coronary Angiography

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A 53-year-old male was admitted to our hospital for evaluation of the second kidney transplant. A Iliopsoas Bursitis was detected on diagnostic abdominopelvic computed tomography. He had undergone a coronary angiography (CAG) due to chest pain 1 month prior to his visit. At that time, he had experienced pain on his right back and flank for some time. We found no other causes or predisposing factors associated with that problem. Thus, we report on a case of iliopsoas bursitis after CAG.

Key Words: Coronary angiography, Iliopsoas bursitis, Kidney transplantation

Introduction

Iliopsoas bursa is one of the largest bursa in the body, located between the iliacus muscle and iliopsoas tendon and the anterior surface of the hip joint capsule [1,2]. Iliopsoas bursitis is often caused by hip joint pathologies, which are degenerative disorders, and inflammatory arthropathy, or may appear as a result of repetitive trauma or sport activities in normal hip joints or iatrogenic factor [3]. Especially, bursitis due to acupuncture has been reported a few times [4].

Coronary angiography (CAG) is an invasive procedure associated with several complications including bleeding and access site and non-access site complications. Vascular access site complications include surgical repair or intervention on the access site (including percutaneous injections), pseudoaneurysm, or a large hematoma (documented as 5 cm). Non-access site complications included coronary artery dissection, coronary perforation, transient ischemic attack or cerebrovascular accident, and death during the index hospitalization [5]. Here, we report on a 53-year-old Korean male who had iliopsoas bursitis after CAG.

Case Report

A 53-year-old male was consulted with the division of rheumatology during his period of hospitalization for evaluation of kidney transplantation. Twenty-five years ago, he was diagnosed with hypertensive chronic kidney disease and underwent hemodialysis. Approximately 1 year later, he underwent kidney transplant surgery with a donated kidney from his younger brother. However, 3 years later, he started hemodialysis again because of chronic rejection of the kidney transplant.

One month ago, he underwent a CAG because of chest pain during hemodialysis. Because femoral artery puncture has not been well, underwent repeated several times.

Next day after the CAG, he experienced pain on his right back and flank, the pain lasted for one month. Since CAG, he has had no trauma or operation history on the abdomen and back. CAG result is normal coronary artery. And he did not use the closure device after CAG. There was no hematoma at the site of CAG catheterization.

He has been taking amlodipine 10 mg, losartan 50 mg, dilatrend 25 mg, and kalimate 10 mg per day.

On physical examination, he has mild tenderness on inguinal area. Subcutaneous ecchymosis was not observed on his back and inguinal area. His initial vital signs were as follows: body temperature 36.6℃, pulse rate 65/min, respiration rate 20/min, and blood pressure 110/50 mmHg. The complete blood count results were as follows: white blood cell 7,100 cells/μL (neutrophils 78.9%, lymphocytes 13.7%, and monocytes 7.1%), platelet count 105,000 cells/μL, hemoglobin 9.77 g/dL, and hematocrit 27.6%.

A right complicated iliopsoas bursitis was detected on the abdomenopelvis computed tomography (CT) (Fig. 1). C-reactive protein level was mildly elevated at 2.4 mg/dL, and the erythrocyte sedimentation rate was mildly elevated at 32 mm/h. Rheumatoid factor and anti-cyclic citrullinated protein antibody were normal. Ultrasonography showed a 5.3 × 2.9 cm

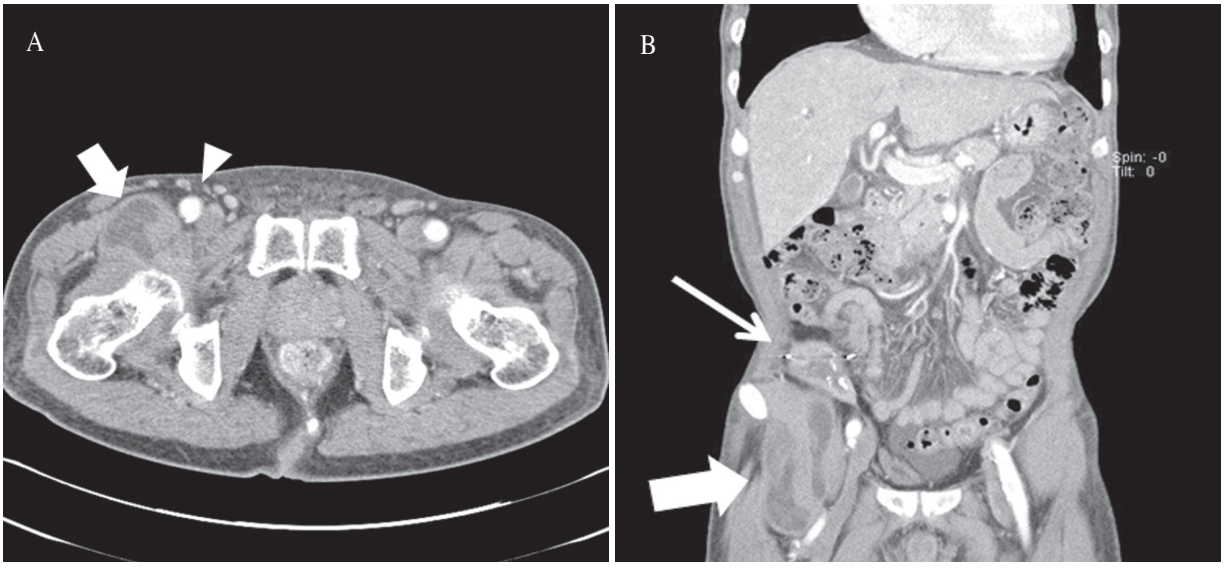

Fig. 1. (A) Axial abdominopelvic computed tomography (CT) shows a right complicated iliopsoas bursitis (arrow) adjacent to the right femoral artery (arrowhead). (B) Coronal abdominopelvic CT shows a right complicated iliopsoas bursitis (thick arrow), and a transplanted kidney (thin arrow) with chronic rejection, right iliac fossa.

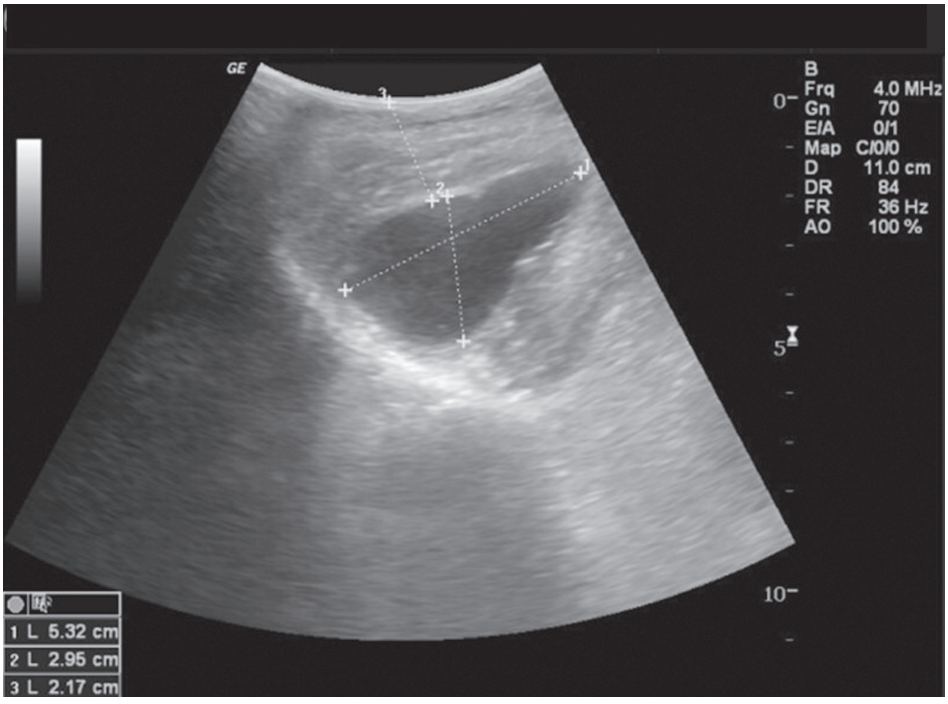

Fig. 2. Abdomen ultrasonography shows a 5.3 × 2.9 cm sized cystic lesion between the right iliac crest and the femoral artery, and directly above that, the transplanted kidney was found.

sized cystic lesion located along the right femoral artery (Fig. 2). The color and turbidity of the aspirated specimen was yellow and transparent. The laboratory findings of the aspirated specimen were as follows: pH 7.70, red blood cell 930 cells/μL, and WBC 80 cells/μL; cultures and staining for bacteria, fungi, and tuberculosis were all negative. After aspiration of the cyst, the patient's symptoms improved with resolution of the pain on his right back and flank.

Discussion

Iliopsoas bursa is large and usually bilateral, measuring an average of 5-7 cm in length and 2-4 cm in width. However, because it normally contains just a trace of fluid, it is invisible on most imaging studies [3,6]. The usual causes of iliopsoas bursitis are acute trauma, overuse injury, rheumatoid arthritis, and iatrogenic factor [2,3,6].

In general, clinical features of iliopsoas bursitis include a palpable abdominal or inguinal mass, groin pain and compression syndromes comprising 'pseudothrombophlebitis' or femoral neuropathy, depending on its origin, size, mass effect. Its relationship to surrounding anatomical structures, often mimicking the pathologies of abdominal, vascular, or neurological origin [1,2]. Treatment of iliopsoas bursitis depends on the underlying cause. For bursitis resulting from excessive activity, stretching exercises are recommended. Fluid aspiration, with or without corticosteroid injection may be beneficial. In the presence of associated inflammatory arthritis, intensification of disease-modifying therapy may reduce the bursa size and

improve overall disease activity. Surgery, including resection of the bursa and closure of the anterior hip capsule, is helpful for recalcitrant cases or for those with compressive symptoms despite image-guided corticosteroid injection [3,6].

In our patient, catheterization through the right femoral artery might have caused the iliopsoas bursitis. There are 4 reasons for this. First, right flank pain as well as back pain occurred next day after CAG. Our patient was intermittent pain for a month. The pain disappeared after cyst aspiration. Second, abdomino-pelvic CT and ultrasonography showed that the iliopsoas bursitis lesion lay along the right femoral artery. Third, in evaluation of the possible causes of iliopsoas bursitis, we found no signs of inflammation or autoimmune disorders or gout. The Fourth, he did not have excessive exercise or trauma for last six month.

CAG is associated with several complications. Many previous studies have reported a complication rate of 2% up to 5.0% , a local complication rate up to 20%, and a mortality rate from 0.1%-0.3% [7]. This complication, which included vascular access site complications, varies in incidence as access site. In particular, several studies have reported the hematoma or pseudoaneurysm as complication of cardiac catheterization. We can exclude the hematoma in this case, because the attenuation of the lesion was not high on unenhanced abdominopelvic CT. In addition, the specimen aspirated from bursitis was yellowish and transparent. We can also exclude the pseudoaneurysm, because the lesion showed intramuscular formation and not linked to femoral artery.

Many previous studies have reported that transfemoral access for CAG and percutaneous coronary intervention have a higher complication rate compared with transradial access [5,8-10].

Vascular complications associated with CAG were higher when using the transfemoral approach compared with the transradial approach [5,7,9,10]. However, transfemoral access for CAG and percutaneous coronary intervention are still regarded as the standard techniques [5,9].

As in our patient, such clinical complications following CAG may be rare. But recently, vascular catheterization were increasing. After vascular catheterization, it should keep in mind about the possibility complicated bursitis. Early diagnosis of this condition is important, because complications may result in considerable morbidity due to compression of adjacent structures. In addition, death secondary to pulmonary embolic disease from lower limb venous stasis caused by iliopsoas bursa enlargement has been reported [6,11].

Therefore, it is important to maintain an appropriate degree of vigilance when patients have undergone previous CAG. In addition, like in our patient, we are also aware that coronary intervention through the femoral approach could cause musculoskeletal complications.

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