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Percutaneous decompression of an iliopsoas hematoma

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Abstract
Spontaneous hematoma in the iliopsoas muscle is a serious complication of anticoagulant therapy. It causes severe pain and often results in loss of function of the femoral nerve. We present two cases in which percutaneous decompression of the hematoma was successfully performed to relieve intractable pain and to support functional restoration of the femoral nerve.

Key words: Muscles, iliopsoas—Blood, coagulation—Hemorrhage—Retroperitoneal space hemorrhage—Interventional procedures—Femoral nerve.

Spontaneous hematoma in the iliopsoas muscle is a frequent and potentially serious complication of anticoagulant therapy, often resulting in transient or permanent loss of function of the femoral nerve. The clinical features of an iliopsoas hematoma consist of a sudden onset of unilateral pain in flank, hip, or thigh, weakness of the hip flexors and knee extensors, a diminished or absent patellar tendon reflex, and decreased or altered sensibility over the anteromedial aspect of the thigh.

At this point, treatment is usually conservative, including bed rest and analgesics. If the hematoma is the result of a deranged anticoagulation protocol, the medication is discontinued or corrected. Recovery of femoral nerve function is often slow and incomplete [1]. For this reason, surgical decompression of the hematoma has been performed in an attempt to save femoral nerve function [2]. However, the results and prognosis of surgical treatment versus conservative management do not differ significantly [3]. Percutaneous drainage has been advocated for treatment of hematomas, but rarely for iliopsoas hematomas [4]. Only one case of percutaneous drainage of an iliopsoas hematoma has been reported in the literature [3]. We present two patients with an iliopsoas hematoma in whom successful decompression was performed by this technique.

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Case Reports

Case 1

A 52-year-old man on a Marcoumar protocol for previous myocardial infarction experienced a sudden pain in the left flank radiating to the hip and inguinal area. On admission the pain had become severe. The patient held his hip in slight flexion. The next day he also experienced numbness over the anteromedial aspect of the thigh and the medial aspect of the lower leg. Neurologic examination showed a grade 3 paralysis of the quadriceps femoris and iliopsoas muscle. The patellar tendon reflex was absent. Reversed maneuver of Lasègue was positive. The thrombotest (TT) was 4%, and a diagnosis of an iliopsoas hematoma was suspected. On ultrasonography and subsequent CT scan the presence of an iliopsoas hematoma was confirmed (Fig. 1). Both examinations demonstrated a fluid–debris interface, suggesting a liquefied hematoma. Immediate ultrasound-guided decompression was performed by means of a 7F pigtail catheter under strictly sterile conditions. Old blood (30 ml) was aspirated after which the catheter was immediately withdrawn. Repeated ultrasonography showed that the hematoma had for the most part disappeared. The patient was immediately free of pain, but functional restoration of the femoral nerve was slow, despite intensive physiotherapy. One year later only a discrete paresis of the quadriceps and iliopsoas muscle was found.

Case 2

A 76-year-old woman presented with pain in the left leg after having received 1 week of intravenous heparin for unstable angina. The pain radiated to the medial side of the lower leg. The psoas sign was positive. Clinically, an iliopsoas hematoma was suspected. Ultrasonography and CT scans confirmed a large iliopsoas hematoma (Fig. 2). A total of 180 ml of old blood was aspirated with ultrasound guidance under strictly sterile conditions. A high pressure was registered when

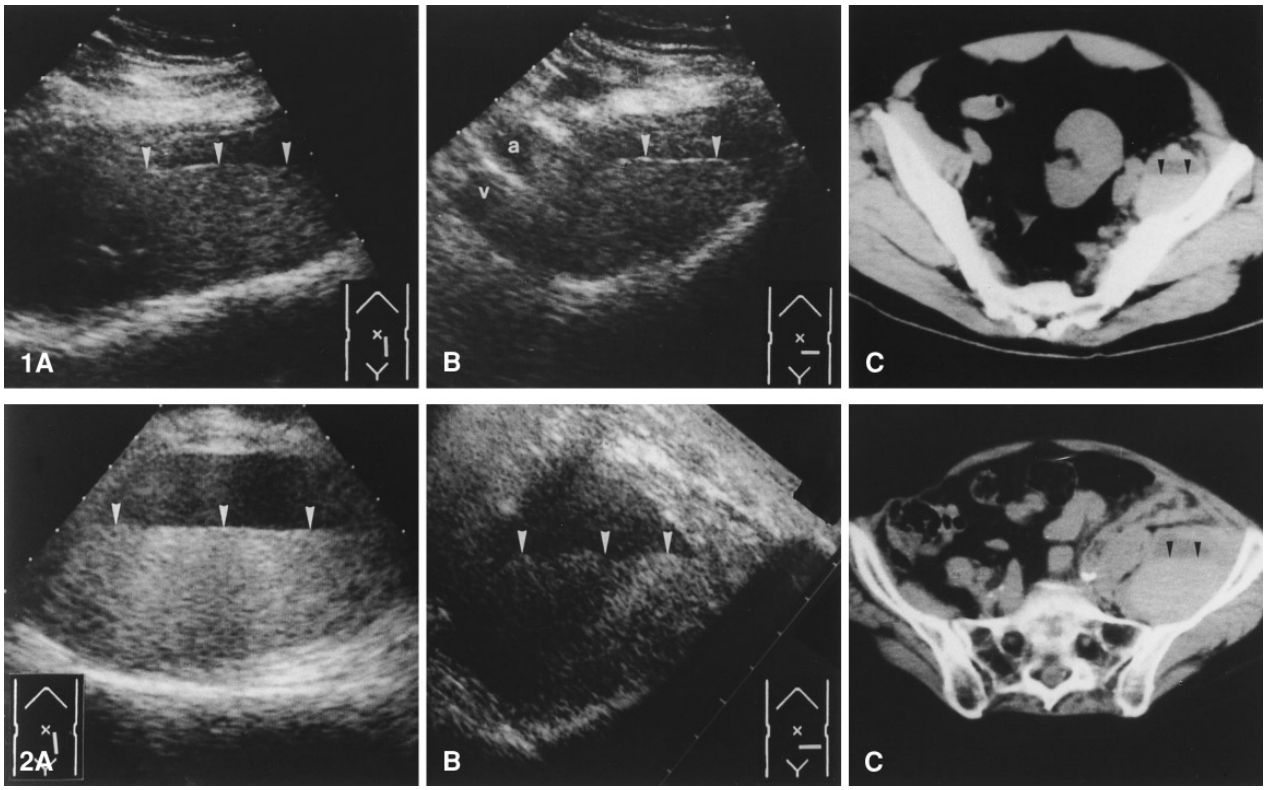

Fig. 1. Longitudinal (**A**) and transverse (**B**) ultrasound images of a left-sided iliopsoas hematoma. The fluid–debris interface indicates a liquefied hematoma. **C** CT scan, corresponding with that in **B,** confirms the hematoma containing sedimented hyperdense material (*arrowheads*). *a,* iliac artery; *v,* iliac vein.

Fig. 2. Longitudinal (**A**) and transverse (**B**) ultrasound images and corresponding scan (**C**) of a left iliopsoas hematoma, again with a fluid–debris interface (*arrowheads*).

the hematoma was punctured. The patient experienced dramatic, instant relief of pain, and femoral nerve function was completely restored 6 months later.

Discussion

The usual treatment for an iliopsoas hematoma is conservative, including bed rest, analgesics, and correction of a deregulated anticoagulant therapy. Early surgical decompression has been advocated to be beneficial in restoring neurologic function [2]. Surgical exploration with decompression of the femoral nerve, however, requires major surgery and is possible only after correction of anticoagulant therapy. Apart from this risk, a review of the literature does not show a significant difference between conservative management and surgical intervention [3]. With the advent of ultrasonography and CT, percutaneous decompression promised to be an attractive alternative [4]. Nevertheless percutaneous drainage of iliopsoas hematomas is not common practice, and only one procedure has been reported in the literature so far [3]. There may be two reasons: First, many hematomas are solid and organized, and therefore they are not amenable to aspiration. Second, there is the possibility of infection.

Our decision to perform percutaneous aspiration in our patients was based on a dependent fluid–debris interface seen on both ultrasound and CT scans, indicating the presence of a liquefied hematoma. We have tried to eliminate the risk of infection by working under strictly sterile conditions and removing the drain immediately after the aspiration was completed.

In both patients percutaneous decompression resulted in prompt relief of pain. Although recovery of femoral nerve function was incomplete in both cases at the time of discharge, 1 year later neurologic examination at the outpatient clinic showed only minimal paresis in case 1 and complete recovery in case 2. We may conclude that ultrasound-guided percutaneous decompression of an iliopsoas hematoma can be performed successfully when a liquefied hematoma is confirmed

on ultrasonography or CT. This treatment immediately relieves the pain and possibly has a beneficial effect on the eventual recovery of femoral nerve function.

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