INTRODUCTION
Pyomyositis is an infection of the skeletal muscles, usually accompanied by an abscess formation. It has non-specific clinical features with muscle pain, swelling, fever and constitutional symptoms. Thus, diagnosis is often delayed, which leads to several complications. Abscess in the obturator internus muscle (OIM) is not common condition in terms of pyomyositis. Its clinical manifestation is similar to septic arthritis of the hip. If the OIM abscess is accompanied by a septic hip, it becomes more difficult to make a diagnosis. Additionally, as it occurs at a deep part of the pelvic cavity, surgical drainage is difficult. When drainage of the abscess was inadequate, prolonged antibiotic treatment was necessary.

We describe a patient who was successfully treated by surgical drainage of the OIM abscess using the Stoppa approach and arthroscopic irrigation of the hip joint.

CASE REPORT
A 12-year boy had left-hip pain for nine days, after which he visited a local hospital. However, intravenous antibiotics and analgesics did not relieve the symptoms, and he was transferred to our outpatient clinic. He was running fever of 39°C that had started three days before his visit. In addition, hip joint ultrasonography done 2 days before the visit did not reveal any abnormal finding; however, his hip joint pain was worsening. His body temperature upon arrival at our hospital was 38.1°C, and the range of motion of the hip joint was limited. He complained of severe hip joint pain, especially during flexion, abduction, and external rotation. He was unable to move his left limb by himself.

The white blood cell (WBC) count was 7,100/µL with a differential neutrophil count of 71.7%. The erythrocyte sedimentation rate (ESR) was 44 mm after first hour and the C-reactive protein (CRP) level was 11.47 mg/dL. Septic arthritis of the hip was suspected and magnetic resonance imaging (MRI) was performed. There, a significant intra-articular fluid in the left hip joint, an

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Figure 1: (A) Preoperative T2 weighted MRI demonstrating the increased amount of left hip joint fluid and high signal intensity around the triradiate cartilage. The increased signal from inside the OIM is consistent with an abscess. (B) OIM abscess (arrowhead) was localised and obturator nerve (arrows) was found over the OIM. (Arthroscopic camera was used to take this image). (C) Arthroscopic finding of left hip. In the hip joint, some floating debris were seen.
abcess in the OIM, and acetabular osteomyelitis around the triradiate cartilage were found (Figure 1A).

Under general anaesthesia, the OIM was approached using the Stoppa approach and abscess was drained. In the Stoppa approach, a transverse incision was made 1 cm above the superior pubic rami and the subcutaneous tissue was dissected. The area was observed where external oblique fascia intersected at the centre and the midline was confirmed. Splitting the rectus abdominis and transversalis fascia from the midline, exposed the urinary bladder. The bladder was pushed aside and the OIM, covering the obturator membrane and quadrilateral surface of the pelvic bone, was reached. A creamy yellow purulent fluid was drained from the OIM.

Arthroscopic examination of the left hip joint (Figures 1B and C), and irrigation were performed. Over 10 cc of the joint fluid was aspirated through the arthroscopic portal and was analysed. The WBC count of the synovial fluid was 140,000/µL with 90% polymorphonuclear cells. S. aureus was identified from the OIM abscess and hip joint aspirate, which was sensitive to oxacillin. First generation cephalosporin was administered intravenously after surgery. Although the body temperature was high (37.6°C - 38.8°C) until the fourth day after surgery, it normalised on the fifth day. Blood test results gradually normalised. CRP and ESR normalised on the 16th and 27th day after surgery, respectively. He was discharged after three weeks of intravenous antibiotics administration, which was discontinued after another three weeks of oral administration. At the 10-month follow-up period, there was no recurrence.

**DISCUSSION**

The symptoms of pyomyositis of the OIM are very similar to those of septic arthritis of the hip, which makes its differentiation by clinical manifestation quite difficult. Pyomyositis of the OIM can be easily overlooked in the process of treatment. In this case, the diagnosis was done by MRI scan.

Surgical drainage of OIM is difficult because it forms the anterolateral wall of the pelvic cavity and is located deep in the body. Therefore, in most reports, long-term intravenous antibiotic therapy or image-guided aspiration has been used as the treatment method instead of surgical drainage. Recurrence of infection after antibiotic treatment is common. Septic arthritis of the hip or osteomyelitis of the pelvic bone is also found in OIM abscess. Menge et al. reported that a medial approach is a good method for draining an abscess in the OIM, but it has a limitation in directly visualising the OIM. Therefore, the authors approached the pelvic cavity through a relatively small incision using the Stoppa approach, and performed surgical drainage directly from the origin of the OIM without neurovascular injury. In this case, acute osteomyelitis of the triradiate cartilage was accompanied by ipsilateral septic arthritis of the hip. Amari and Yokoi previously reported septic arthritis disseminated from an abscess in the OIM. Osteomyelitis of the pelvis often results from the OIM acting as a conduit for the transmission of infection. For septic arthritis, arthroscopic examination and sufficient irrigation with normal saline was performed.

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**REFERENCES**


