◇ 증 례 ◇

소아 복강 내 유리소체 1예

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A Case of Peritoneal Loose Body in a Child

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A peritoneal loose body is reported to develop because of torsion and separation of the epiploic appendages. The condition is usually symptomless and may be incidentally during abdominal surgery or autopsy. It usually occurs in middle-aged and elderly adults and is very rare in children. In this paper, we report a case of a peritoneal loose body in the pelvic cavity of a 10-year old-girl who presented with urinary frequency and left lower abdominal discomfort. A second plain X-ray film of the abdomen, obtained before surgery, in a different view than the first, revealed that the calcified mass had migrated to a lower position. The mass was laparoscopically resected, and histological examination revealed it to be a fibrotic nodule with central liquefaction and calcification. **(Korean J Pediatr Gastroenterol Nutr 2009; 12: 75～78)**

Key Words: Peritoneal loose body, Epiploic appendages

INTRODUCTION

Epiploic (or omental) appendages are visceral peritoneal pouches that arise from the serosal surface of the colon and are attached to this surface by a vascular stalk. Torsion of these appendages leads to inflammation, and this may occasionally result in adhesion, bowel obstruction, intussusception, peritonitis, abscess formation, and the development of an intraperitoneal loose body[1,2]. A peritoneal loose body is a small mobile lesion that develops in the abdomen, and is usually symptomless. It may be identified during abdominal surgery or autopsy and most commonly occurs in adults aged 40～50 years but very rarely in children[3]. Thus there has been no report from Korea on this condition in a child. Here, we report a case of a peritoneal loose body associated with urinary symptoms in a 10-year old girl; the body was laparoscopically resected.

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CASE REPORT

A 10-year-old girl visited a Local private clinic with complaints of urinary frequency and lower abdominal discomfort that had persisted for 4 days. Plain radiography of the abdomen revealed a mass lesion in the pelvic cavity. Therefore, the patient was transferred from the clinic to our hospital. Her past history and family history were unremarkable. Examination of her vital signs revealed a blood pressure of 110/60 mmHg, a pulse rate of 92 beats/min, a respiration rate of 22 breaths/min, and a body temperature of 36.4°C.

The abdomen was soft and flat, and the lower abdomen was tender toward the left side; however, no palpable mass was detected. The laboratory data were as follows: white blood cell (WBC) count, 9,380 cells/㎕; hemoglobin, 14.4 g/dL; hematocrit, 41.2%; platelet counts, 313,000 cells/㎕; urine WBC count, 10～15 cells/high-power field (HPF); urine red blood cell (RBC) count, 1～3 cells/HPF. A plain X-ray film of the abdomen showed a calcified mass of approximately 2.6 cm on the left side of the pelvic cavity (Fig. 1A). Further, computed tomography (CT) of the abdomen (Fig. 2) revealed a homogeneous high-density lesion in the left anterior region of the bladder, with dense calcification along the peripheral rim of the lesion.

Follow-up plain radiography of the abdomen, performed on the next day in a different view, revealed that the calcified mass had migrated lower within the pelvic cavity (Fig. 1B). Because the loose body was relatively large size with calcification that might cause the urinary symptom by pressuring or irritating bladder, she was

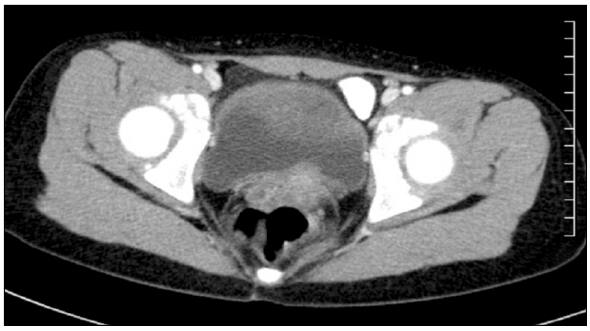

Fig. 2. Computed tomography of the abdomen revealed a homogeneous high- density mass in the left anterior region of the bladder, with dense calcification along the peripheral rim of the mass.

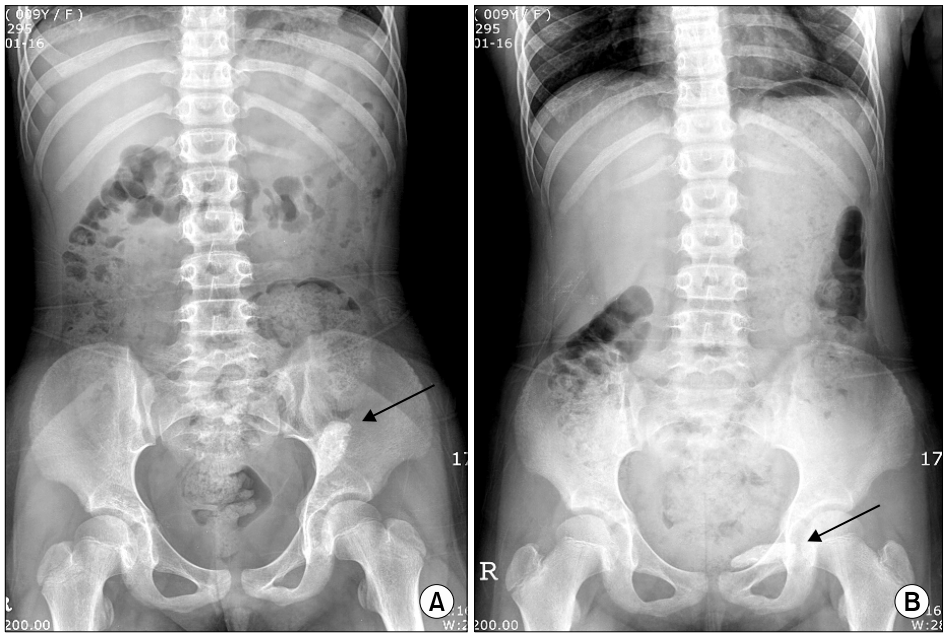

Fig. 1. A plain X-ray film of the abdomen showed a calcified mass on the left side of the pelvic cavity (A), and a film obtained in a different view showed migration of the mass to a lower position (B).

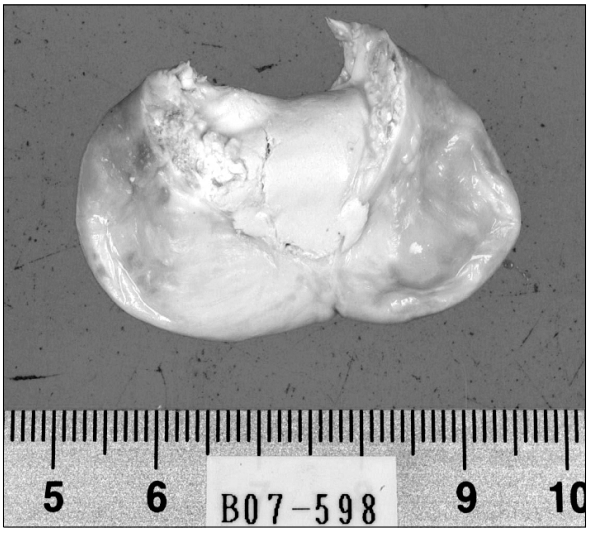

Fig. 3. The resected specimen was creamy white, had a 4-cm diameter, and appeared as a soft round mass with a calcified capsule.

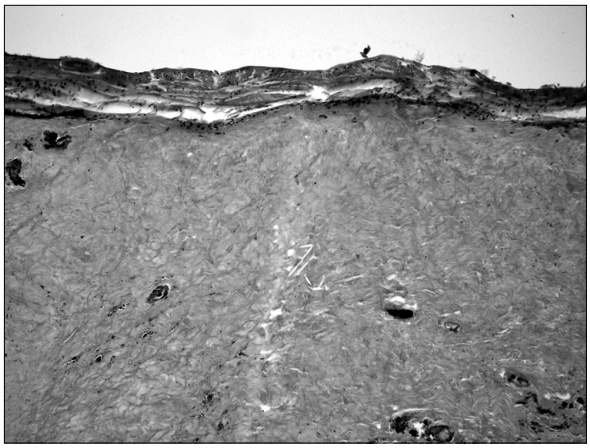

Fig. 4. Histological examination revealed a fibrotic lesion with central liquefaction and calcification.

referred to our general surgery department for a laparotomy and endoscopic resection of the lesion. On macroscopic examination, the lesion was creamy white, had a 4-cm diameter, and appeared as a soft round mass with a calcified capsule (Fig. 3). Histological examination of the lesion revealed that it was a fibrotic nodule with central liquefaction and calcification (Fig. 4).

DISCUSSION

Epiploic appendages are small peritoneal pouches, physiologically composed of fat, that originate from the external surface of the colon and are attached to their site of origin by a vascular stalk. These appendages are usually 1～2 cm thick and 0.5～5 cm long. They provide a soft and flexible support cushioning the colon, participate in local immune response, and mediate colonic absorption. Pathophysiologically, these appendages are subjected to torsion that can result in vascular occlusion and ischemia, which are reported to be features of epiploic appendagitis[1～3].

Epiploic appendagitis can occur at any age, but has mainly been reported to occur in individuals aged 12～82 years[3]. Its incidence is slightly higher in men[4]. It is usually a self-limited disease but may occasionally result in adhesion, bowel obstruction, intussusception, peritonitis, abscess formation, or the development of an intraperitoneal loose body[5]. When an epiploic appendage is subjected to torsion, the blood supply to the appendage is cut off; this is followed by saponification and calcification of its fat contents, leading to atrophy of the vascular stalk that connects it to the serosal surface of the colon. Finally, the appendage is detached from the colon and is released into the peritoneal cavity as a peritoneal loose[6,7].

There have been many case reports on calcified, mobile abdominal lesions, uterine myoma, lymph glands in the mesentery, and urinary stones except detached epiploic appendages[6,8,9]. Although a peritoneal loose body may be associated with large palpable abdominal masses, intestinal obstruction, and urinary retention in some cases[9,10], most mobile lesions are generally symptomless[11]. Therefore, it is important to differentiate a peritoneal loose body from these lesions. Although, CT, magnetic resonance imaging (MRI), or both are usually useful for this differentiation. these techniques do not suffice for an accurate diagnosis of mobile masses. It has been reported that in cases where a diagnosis of peritoneal loose body is suspected, a second plain X-ray film of the abdomen,

obtained in a different view than the first, can reveal the mobility of lesions in the abdominal cavity[10]. Fortunately, in the present case, the patient developed urinary symptoms and lower abdominal discomfort, so she could visit a local private clinic early in the course of the condition. Further, follow-up radiography in a different view revealed migration of the calcified mass, thus facilitating appropriate management of the condition.

In conclusion, we reported the case of a 10-year-old girl with a peritoneal loose body associated with urinary symptoms, a very rare condition in children. When a child is found to have a calcified mass in the peritoneal cavity, the possibility of a peritoneal loose body should be considered, and roentgenographic analyses in different views should be performed.

요 약

복강내 유리소체는 epiploic appendage의 염전과 분리로 인해 생성 되며 대개 증상이 없고 간혹 수술이나 검시에서 우연히 발견 된다. 대부분 중년이상의 연령에서 발견되며 소아에서는 극히 드물며, 특히 국내 소아 연령에서는 보고가 없다. 저자들은 10세 여아가 4일 동안의 빈뇨와 하복부 동통으로 개인의원에서 시행한 복부 단순 X-ray 촬영에서 복강 내 종괴가 있어 전원 되어 복강경 수술 후 복강내 유리소체로 진단되었던 1예를 경험하였기에 보고하는 바이다.

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