

Calcified Splenic Hematoma Presenting as a Pelvic Mass

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The spleen is the most vulnerable visceral organ involved in blunt abdominal trauma; 40% to 70% of patients with blunt splenic laceration can be managed with nonsurgical methods. A majority of hematomas of the spleen can heal and be absorbed within 2 to 3 months; through an unknown mechanism in an unusual condition, the hematoma may organize and eventually calcify. Herein, we report on a senile female with blunt abdominal trauma 6 years previous, who turned out to have a calcified splenic hematoma with clinical presentations of a palpable pelvic mass and intestinal obstruction. A total splenectomy, including the calcified mass, was performed. She experienced great clinical improvement postoperatively. She was uneventfully discharged 1 week later. (*Chang Gung Med J* 2002;25:341-4)

Key words: splenic injury, calcified splenic hematoma.

The spleen is the most vulnerable visceral organ damaged in victims of blunt abdominal trauma. The pertinent literature indicates the development of subcapsular splenic hematomas in 37% of patients of blunt splenic trauma, among which, 74% can be managed with nonsurgical methods.⁽¹⁾ A majority of such hematomas can resolve spontaneously within a couple of months; while some rupture, leading to delayed splenic rupture.⁽²⁾ In rare conditions, the hematoma organizes and eventually calcifies.⁽³⁻⁵⁾ This article describes a senile female, who suffered from blunt abdominal trauma 6 years previous and who later was diagnosed as having a calcified splenic hematoma on laparotomy, with clinical presentations of intestinal obstruction and a palpable pelvic mass.

CASE REPORT

An 84-year-old female patient was involved in a traffic accident 6 years previous, at which time she

was struck from behind on her left side by a passing car. Although experiencing left flank pain, she sought no medical assistance and merely took some analgesics to relieve the pain. Her condition was uneventful.

Three days before admission, she complained of abdominal distension and cramping pain, nausea, and vomiting. She also complained of dysuria, frequency of urination, and tenesmus. She was then sent to our emergency ward for help. Kidney ureter and bladder (KUB) plain film revealed dilated intestinal loops and a large calcified mass occupying the entire pelvis (Fig. 1). Pelvic computed tomography (CT) indicated not only that the proximal small intestinal loops were prominently dilated with the distal ileum followed by a relative collapse of the entire colon, but also that a large mass occupied the pelvic space. The mass had a calcified capsule of irregular thickness, was predominantly hypodense mixed with irregular calcifications of central content, and measured 10 × 10 cm in size; also, the low-lying

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Fig. 1 KUB demonstrating a huge calcified mass located in the pelvis and the presence of dilated intestinal loops.

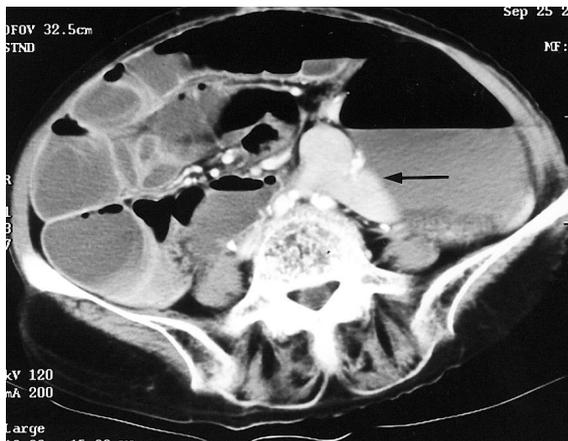


Fig. 2 Abdominal CT showing the spleen (arrow) located at the inferomedial position of the stomach and abutting the calcified mass.

spleen was abutting the superolateral wall of the pelvic mass (Fig. 2). Pelvic angiography confirmed that this mass was not a vascular-origin tumor.

On laparotomy, a fetal head-sized stony hard mass, appearing with a yellowish coloration, occupied the pelvic space. This mass was adhered to the pelvic wall and surrounding intestine, leading to intestinal obstruction. After dissection of the adhesion, the hard mass was still connected to the low



Fig. 3 On laparotomy, the calcified mass seen to arise from the low pole of the spleen (arrow).

pole of the spleen which was displaced and pulled to the inferomedial aspect of the stomach (Fig. 3). A total splenectomy, including the mass, was performed. The cut surface of the mass revealed an outer calcified shell with central deep brownish clay-like content. Pathology confirmed a calcified hematoma composed of hyalinized blood clots with calcification. The postoperative course was uneventful. She began to take a regular diet 3 days after the operation; she returned to normal bowel and bladder function 5 days postoperatively; and she was discharged with a 1-week hospital stay and thereafter enjoyed a normal life.

DISCUSSION

The spleen is the most prevalent visceral organ involved in blunt abdominal trauma; 40% to 70% of patients with blunt splenic laceration can be treated with nonsurgical methods. The success rate was more than 90%.⁽⁶⁻⁸⁾ However, in a report by Peitzman et al. in which the failure rate of planned nonoperative management was correlated with the American Association for the Surgery of Trauma (AAST) grades of splenic injury, a total of 60.9% of patients failed nonoperative management within 24 hours of admission. Successful nonoperative management was associated with higher blood pressure and hema-

tocrit, and less-severe injury based on the Injury Severity Score (ISS), Glasgow Coma Scale, grade of splenic injury, and quantity of hemoperitoneum.⁽⁹⁾

Hematoma and laceration in the spleen can heal and be absorbed within 2 to 3 months.⁽⁷⁾ Subcapsular splenic hematomas with or without associated parenchymal damage is reported to account for 37% of all blunt splenic trauma.⁽¹⁾ A subsequent lesser trauma resulting from minor falls or fights is more likely to lead to delayed rupture; whereas some studies have suggested that subcapsular hematoma of the spleen is the most common etiology for delayed splenic rupture.⁽²⁾ However, most subcapsular splenic hematomas can be safely managed nonsurgically. Black et al. indicated that of 23 patients with blunt subcapsular splenic hematomas who were conservatively managed, all were discharged without further complications.⁽¹⁾ In an animal experiment in which 23 subcapsular splenic hematomas were caused in 19 dogs,⁽¹⁰⁾ they were followed both clinically and ultrasonographically for 12 weeks, and 57% of the hematomas resolved spontaneously. The remaining 43% of the hematomas that persisted were aspirated percutaneously with ultrasound guidance, after which, they all resolved.

Despite spontaneous resolution of most hematomas, extremely rare cases of hematomas will organize, and even calcify by an unknown mechanism. Although there are several reports in the literature of organized or calcified hematomas in various organs,⁽³⁻⁵⁾ the mechanism of formation still remains unclear. This senile female had experienced blunt abdominal trauma 6 years previous; splenic hematoma may have developed, and it eventually resulted in a pelvic calcified mass, which led to intestinal obstruction. This kind of complication in splenic injury is very rare in the literature.

We recommend surgical removal of the calcified hematoma in such cases. A partial splenectomy may be considered, because the calcified mass may be

abutting the low pole of the spleen. However, taking into account the reduced function and the fragility of the spleen in the elderly, and the safety of surgery for this senile patient, we preferred a total splenectomy as the treatment of choice. She resumed her normal daily activities after the surgical intervention.

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以骨盆腫瘤為臨床表現之鈣化的脾臟血腫

徐榆堡 陳瑞杰 方禎鋒 林炳川

左腹部挫傷中，脾臟是最易受傷的內臟器官。據文獻統計，40%到70%的病患能夠以非手術療法來控制；而脾臟裂傷的血腫塊大部分能夠在2到3個月內被吸收掉。然而，在極少數狀況下，有些血腫塊卻進行凝固作用，最後變成鈣化狀態。這裡，我們報告一位老年婦女，有鈣化的脾臟腫塊，6年前她曾有脛部挫傷的病史，而其臨床表現為骨盆鈣化腫瘤及腸阻塞。病患在手術後，包括脾臟及鈣化腫塊全切除，其臨床症狀得到明顯改善，並於壹星期後順利出院。(長庚醫誌 2002;25:341-4)

關鍵字：脾臟裂傷，脾臟鈣化血腫。