Jpn J Clin Oncol 1998;28(7)441–442

A Case of Giant Peritoneal Loose Bodies Mimicking Calcified Leiomyoma Originating from the Rectum

Atsushi Takada[1], Yoshihiro Moriya[1], Yukio Muramatsu[2] and Tomoo Sagae[3]

Departments of [1]Colorectal Surgery and [2]Diagnostic Radiology, National Cancer Center Hospital, Tokyo and [3]Atsugi Ichoka Clinic, Atsugi, Japan

Two giant peritoneal loose bodies were found in the pelvis in a 79-year-old man. These bodies were demonstrated by computed tomography and magnetic resonance imaging to be well circumscribed masses and to have marked calcification in their central portion. Preoperatively, these bodies had been diagnosed as a calcified leiomyoma originating from the rectum; however, surgery revealed these lesions to be detached appendices epiploica. Histological examination showed that these peritoneal loose bodies consisted of thin layers of eosinophilic substance and had no cellular component. Small peritoneal loose bodies are occasionally found during laparotomy, but such large ones measuring 6 cm are very rare. In our case, accurate diagnosis could not be obtained preoperatively, because these loose bodies mimicked calcified leiomyoma of the rectum.

Key words: appendices epiploica – peritoneal loose body – leiomyoma

INTRODUCTION

Peritoneal loose bodies are occasionally found at laparotomy and in most cases they are small in size, like peas. The most common origin of loose bodies is appendices epiploica (1–7) and some authors have suggested that large loose bodies can be formed by accumulation of peritoneal serum to the appendices epiploica (1). We report a case with giant loose bodies measuring 6 × 7 cm, refer to development of such large bodies and discuss the problems in diagnosis.

CASE REPORT

A 79-year-old man was referred to our hospital because of an elevation of serum prostatic specific antigen. He had no symptoms, but two mobile hard masses were detected through the rectal wall by digital examination. He was suspected to have intrapelvic neoplasm and was admitted to our hospital on February 15, 1997. Barium enema revealed a compression of the lower part of the rectum, but failed to show any mucosal change. Computed tomography (CT) revealed two calcified masses, 6 cm in diameter, in the Douglas pouch (Fig. 1). These lesions were well circumscribed, low-intensity masses on both T1- and T2-weighted magnetic resonance imaging (MRI) (Fig. 2). From these findings, the patient was given a diagnosis of leiomyoma originating from the rectal wall and a laparotomy was carried out in May 1997. At surgery, two oval-shaped peritoneal loose bodies about the size of a hen's egg, completely free in the pelvic cavity, were found. There were also small loose bodies about the size of a small pea in the peritoneal cavity. In addition, part of the appendices epipolica attached to the sigmoid colon were calcified with constricted stalks on the verge of becoming detached. Macroscopically, both of these bodies were oval-shaped masses, measuring 6 cm in length and 7 cm in width. One weighed 78 g and the other 66 g. Their surfaces were bony hard, wrinkled and slightly glossy as if they had been polished (Fig. 3). Histologically, these bodies consisted of laminated strands of fibrinoid substance and neither cellular component nor calcification was found in the specimens.

DISCUSSION

Appendices epiploica, fat tabs covered with visceral peritoneum, are present along the entire length of the colon, but their physiological importance has not been clearly defined (2–4). In cases of chronic torsion of the appendix epiploica, the blood supply is shut off, saponification and calcification of fat contents take place and the pedicle atrophies. Finally, the appendix epiploica detaches from the colon and becomes a peritoneal loose body. It is not uncommon to find small loose bodies during laparotomy; however, giant loose bodies are very rare and the process of their development has not been fully demonstrated. Our histological findings suggest that deposits of peritoneal serum to the dropped appendix epiploica form the outer layer of a giant loose body.

Received January 12, 1998; accepted April 8, 1998

For reprints and all correspondence: Atsushi Takada, Department of Surgery, National Cancer Center Hospital, 1–1, Tsukiji 5-chome, Chuo-ku, Tokyo 104, Japan

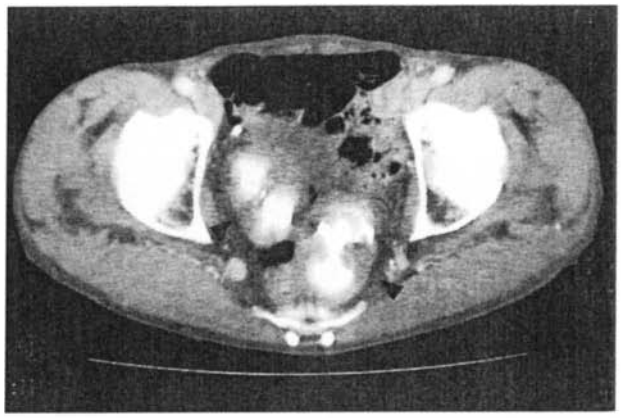

Figure 1. Pelvic CT demonstrating two low-density masses with marked calcification (black arrowheads).

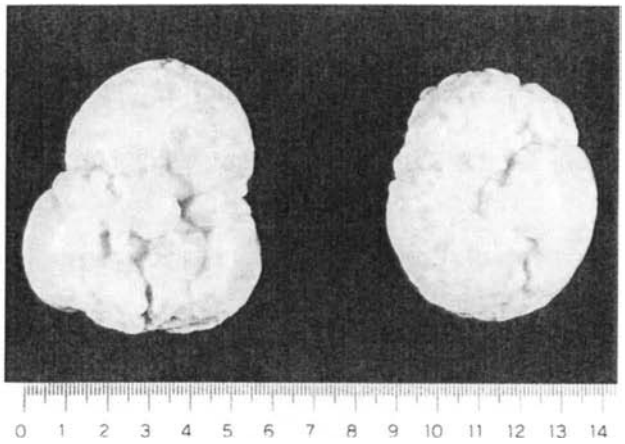

Figure 3. The surfaces of these bodies were wrinkled and slightly lustrous as if they had been polished.

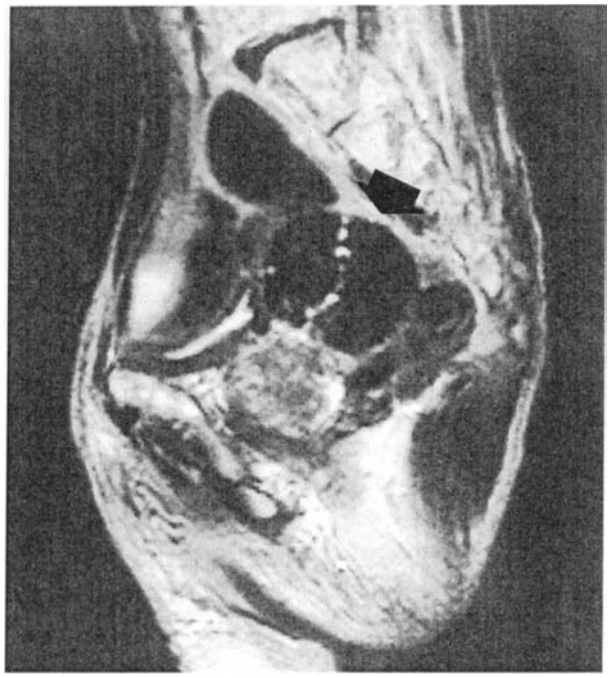

Figure 2. MRI in a T2-weighted image of an axial section. A well circumscribed, low-intensity tumor was demonstrated anterior to the rectum (black arrow). Prostate, anterior to the tumor, revealed high intensity.

A case with two large loose bodies as large as a hen's egg was studied and these bodies had been diagnosed as an intrapelvic neoplasm. In the pelvic CT, these bodies revealed marked calcification in their central portion and low density on their surface which had been regarded as parenchyma of leiomyoma. MRI showed well circumscribed, low-intensity masses on both T1- and T2-weighted imaging and this low intensity was compatible with the CT findings because a calcified lesion is generally hypointense or invisible on MRI. From these roentgenological findings, the lesions were assumed to contain calcified tissue; however, calcification was not found in these bodies histologically. This discrepancy between the microscopic and roentgenological findings was also found in a previously reported case (1), probably because decalcification to slice these bony hard bodies should have been completely performed.

There are many reported cases of calcified mobile lesions in the abdomen, calcified pedunculated myoma uteri, lymphatic glands in the mesentery, urinary stones and detached appendices epiploica. Generally, CT and MRI are useful for differentiating these lesions. In our case, however, accurate diagnosis could not be obtained by these methods. The present results show the pitfalls and limitations in the diagnosis of movable masses by CT and MRI. A case where plain X-ray films with changes to the patient's position could reveal the mobility of peritoneal loose bodies in the abdominal cavity has been reported (4). In our case, if roentgenological studies had been added with different positions of the body, an accurate diagnosis could have been obtained. When marked calcification in the pelvis is detected using different imaging methods, one should take account into the possibility of giant loose bodies.

References

1. Ross JA, McQueen A. Peritoneal loose bodies. *Br J Surg* 1947/48;35:313–7.
2. Patterson DC. Appendices epiploicae and their surgical significance with report of 3 cases. *N Engl J Med* 1933;209:1255–9.
3. Moore GA. Appendices epiploicae. *N Engl J Med* 1940;222:919–21.
4. Fieber SS, Forman J. Appendices epiploicae: clinical and pathological considerations. *Arch Surg* 1953;66:329–38.
5. Morales O. Calcified appendices epiploicae as freely mobile in the abdominal cavity. *Acta Radiol* 1944;25:653–61.
6. Borg SA, Whitehouse GH, Griffiths GJ. A mobile calcified amputated appendix epiploica. *Am J Rentogenol* 1976;127:349–50.
7. Desai HP, Tripodi J, Gold BM, Burakoff R. Infarction of an epiploic appendage. *J Clin Gastroenterol* 1993;16:323–5.
8. Farmlett EJ, Fishman EK, Jones B, Siegelman SS. Torsion of lipoma of appendix epiploica: CT evaluation. *J Comput Assist Tomogr* 1985;9:366–8.