bowel lesion. Primary anastomoses were then performed.

Microscopic examination showed the tumour to be composed of sheets of plasma cells. Some areas contained cells that were less mature; the immature cells remained plasmacytoid. The lesions involved the full thickness of the bowel, with obvious accompanying mucosal ulceration. Mesenteric lymph nodes were also found to be involved. In the presence of documented MM, a diagnosis of extramedullary plasmacytoma was made.

The patient did well initially and was discharged home on postoperative day 14 with a view for potential autologous peripheral blood stem cell transplant. Unfortunately, over the next 4 months his MM progressed. After a prolonged course of illness that included recurrent small-bowel obstruction, he died.

Discussion

MM belongs to the family of monoclonal, immunoproliferative plasma-cell neoplasms (plasmacytomas) arising from the B-cell line.[1] Malignant plasmoblastic clones generally reside in bone marrow. When on rare occasions they migrate into soft tissues, it is termed extramedullary plasmacytoma (EMP).

EMP has 2 major subtypes, primary (without) and secondary (with prior bone-marrow involvement).[1–3] Over 70% of primary and secondary EMP occur in the upper æro-digestive tract (nasopharynx, oropharynx, larynx, hypopharynx, trachea and esophagus),[3,4] with epidermal lesions also occasionally encountered. Roughly 12% of all primary extramedullary EMP tumours have gastrointestinal involvement, which is much rarer in secondary EMP.[5] In patients with MM, EMP may be observed in up to 65% of cases; the majority of these are paraskeletal tumours, with only one-third being true distant spread.[5] Intestinal involvement is seldom reported in MM and appears to be a late occurrence.[5]

Prognosis of intestinal EMP is unclear. In 9 selected patients with MM-associated EMPs, Vaiopulos and colleagues[2] reported a median survival of 4.6 years, none with intestinal involvement. Two cases involving the intestinal tract presented by Griffiths and associates[5] had fatal outcomes not long after diagnosis with EMP. Our patient unfortunately had a similar course.

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References

1. Alexiou C, Kau RJ, Dietzfelbinger H, Kremer M, Spiess JC, Schratzenstaller B, et al. Extramedullary plasmacytoma. *Cancer* 1999;85:2305-14.
2. Vaiopoulos G, Viniou N, Plata E, Konstantopoulos K, Andreopoulos A, Rombos Y, et al. Development of plasma cell tumors during treatment of multiple myeloma. *Ann Hematol* 1996;72:317-20.
3. Datta RV, Daskalakis T, Adler H, Lehman H. Unusual presentations of uncommon tumors: case 3. Giant cell plasmacytoma presenting as an intraperitoneal mass. *J Clin Oncol* 2002;20:2405-6.
4. Galieni P, Cavo M, Avvisati G, Pulsoni A, Falbo R, Bonelli MA, et al. Solitary plasmacytoma of bone and extramedullary plasmacytoma: two different entities? *Ann Oncol* 1995;6:687-91.
5. Griffiths AP, Shepherd NA, Beddall A, Williams JG. Gastrointestinal tumour masses due to multiple myeloma: a pathological mimic of malignant lymphoma. *Histopathology* 1997;31:318-23.

Laparoscopic management of incarcerated obturator hernia

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Obturator hernia is a rare cause of obstruction of the small bowel. Various imaging modalities have been applied to achieve preoperative diagnosis of this rare clinical entity. Because there may be a potential for undue delay in the definitive treatment of patients with impending bowel strangulation, some health care workers have advocated that obturator hernia requires laparotomy more than a diagnosis.[1] Now, in this era of minimally invasive surgery, we can apply laparoscopy in the early diagnosis and treatment of this rare disease.

Case report

An 87-year-old resident of an old-age home was admitted to hospital because of colicky abdominal pain and vomiting for 1 day. She had no previous abdominal surgery. Physical examination revealed an

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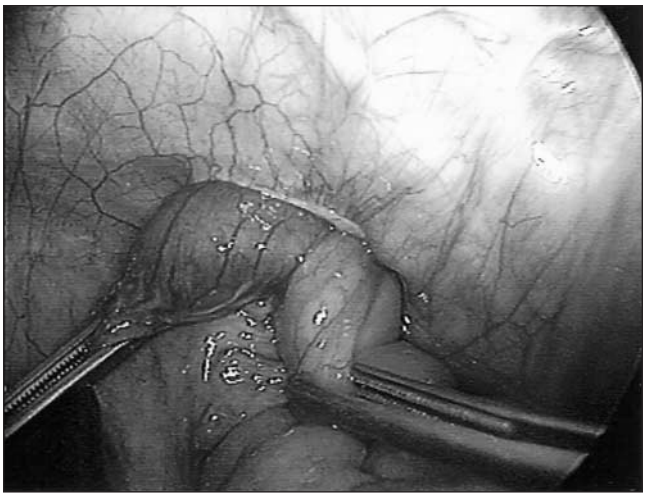

FIG. 1. Incarcerated small bowel at right obturator hernia.

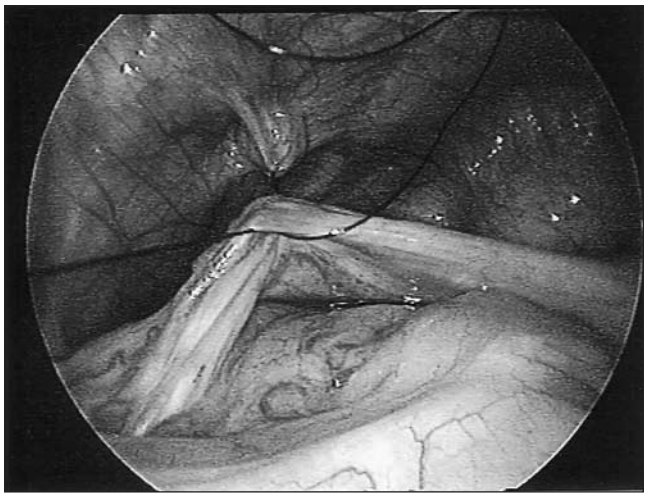

FIG. 2. Repair of the hernia defect with broad ligament.

emaciated lady with a distended abdomen and hyperactive bowel sounds. She showed Howship–Romberg sign: pain or parathesia along the medial side of the thigh during extension and abduction of the hip. An abdominal radiograph showed obstruction of her small bowel. The provisional diagnosis was incarcerated obturator hernia.

Laparoscopy was arranged promptly after fluid resuscitation. A "knuckle" of small bowel was found to be incarcerated to the right obturator foramen (Fig. 1). It was gently reduced with forceps, without trauma. After we carefully verified the viability of the incarcerated small-bowel loop, we closed the defects on both obturator foramena with broad ligaments by laparoscopic intracorporeal suturing using non-absorbable sutures (Fig. 2).

The operating time was 45 minutes, with minimal blood loss. The patient's postoperative recovery was uneventful. She was then discharged from the hospital 3 days after surgery and was still symptom-free 1 year later.

Discussion

Since the initial description of obturator hernia by de Ronsil in 1724, over 600 cases have been reported.[2] It frequently affects elderly multiparous women who have comorbidities. Many of these women are thin and are often under institutional care.[3]

Ultrasonography, herniography and small-bowel contrast-enhanced and computed tomography have been used for diagnosis, even though preoperative imaging could delay definitive treatment for the patient with acute small-bowel incarceration caused by an obturator hernia. It has been recommended that "obturator hernia needs a laparotomy, not a pre-operative diagnosis."[1] With the advent of minimally invasive surgery, early laparoscopy assists in diagnosis and avoids delay of definitive operative care.

Several techniques to repair the obturator hernial defect have been described. In our case, broad ligaments were employed because in female patients they are readily available and close to the hernial defect(s).

In summary, obturator hernia is a rare cause of small-bowel obstruction in the elderly. Early diagnosis, reduction of the incarcerated small bowel, and repair of both obturator herniae can be achieved via laparoscopy.

Competing interests: None declared.

References

1. Ziegler DW, Rhoads JE. Obturator hernia needs a laparotomy, not a diagnosis. *Am J Surg* 1995;170:67-8.

2. Bergstein JM, Condon RE. Obturator hernia: current diagnosis and treatment. *Surgery* 1996;119:133-6.

3. Chung CC, Mok CO, Kwong KH, Ng EKW, Lau WY, Li AKC. Obturator hernia revisited: a review of 12 cases in 7 years. *J R Coll Surg Edinb* 1997;42:82-4.