CASE REPORT

Atypical presentation of postoperative faecal peritonitis in an elderly patient

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SUMMARY

A 90-year-old Caucasian man was admitted for an elective sigmoid colectomy having been recently diagnosed with colon cancer. He first presented following a 3-month history of per rectal bleeding. Flexible sigmoidoscopy demonstrated a 4 cm lesion in the proximal sigmoid colon. A biopsy confirmed adenocarcinoma. A CT colonoscopy demonstrated no further colonic lesions and staging CT demonstrated no evidence of metastasis. On postoperative day 7, patient had symptoms of nausea and vomiting. On examination, he had a tender right iliac fossa, sluggish bowel sounds but no evidence of guarding or rebound tenderness. He had no fever with a white cell count $5.8 \times 10^9/L$ and C reactive protein 58 mg/L. Chest X-ray showed air under the diaphragm. CT abdomen and pelvis was performed on postoperative day 8 showing a moderate amount of abdominal free fluid and air beneath the anterior abdominal wall. Subsequent laparotomy revealed gangrenous anastomotic disruption and faecal peritonitis. Abdominal washout and terminal colostomy performed. Good postoperative recovery was seen.

BACKGROUND

This case highlights that in the context of peritonitis; elderly patients may not present with the classic features of an acute abdomen and may not mount the same immune response with respect to their full blood count and C reactive protein (CRP) compared to younger patients.

CASE PRESENTATION

A 90-year-old Caucasian man admitted for an elective sigmoid colectomy having been recently diagnosed with colon cancer. He first presented to his general practitioner (GP) following a 3-month history of per rectal bleeding and was therefore referred for urgent investigation. Follow-up flexible sigmoidoscopy showed a 4 cm lesion in the proximal sigmoid colon which was biopsied and later confirmed adenocarcinoma. Staging CT of the chest, abdomen and pelvis showed no evidence of metastatic spread and subsequent CT colonoscopy confirmed that there were no other suspicious lesions within the large intestine. His medical history included a benign prostatic hyperplasia and a previous right inguinal hernia repair in 1994. His drug history included tamsulosin 400 µg daily only and he was not known to have any allergies. He smoked a pipe since the age of 20 years and reported minimal alcohol use. Our patient lived with his daughter, mobilises independently and was

fully independent in activities of daily living. His body mass index on admission was 23.5.

A sigmoid colectomy was performed by open laparotomy through a midline incision under general anaesthetic. He received gentamycin 240 mg intravenously at induction as prophylaxis. Following surgery he was electively admitted to the high dependency unit (HDU) for postoperative care. Postoperative recovery was uneventful with our patient requiring little supportive care other than a continuous morphine infusion for postoperative pain management. On postoperative day 1, our patient's morphine infusion was discontinued and he was transferred to the surgical ward for usual ward-based care. On postoperative day 2, our patient had symptoms of nausea and his oxygen saturation was noted to be 88% on room air. He was started on intravenous co-amoxiclav 1.2 g three times a day to cover for hospital-acquired pneumonia and his oxygen saturation improved with physiotherapy and adequate analgesia. By day 5, our patient reported to be feeling significantly improved and was eating and drinking. Observations were noted to be stable and co-amoxiclav was discontinued. Our patient was making good progress until postoperative day 7 when he developed acute nausea and started vomiting undigested food. On examination, he had symptoms of tenderness in his right iliac fossa. He had sluggish bowel sounds but displayed no evidence of guarding or rebound tenderness. He was reviewed on the consultant ward round and noted to have no fever and to have a white cell count (WCC) $5.8 \times 10^9/L$ and CRP 58 mg/L with normal urea and electrolytes. The plan was therefore to manage our patient conservatively and arrangements were made for barium study the subsequent day to exclude postoperative leak. He was started on intravenous piperacillin/tazobactam and gentamicin.

INVESTIGATIONS

A chest X-ray was also performed on postoperative day 7 which confirmed left basal consolidation and free air beneath the right hemidiaphragm (figure 1).

On postoperative day 8, the water soluble contrast enema showed moderate faecal material within the distal large bowel and no evidence of an anastomotic leak. However, in view of free air beneath the right hemidiaphragm shown on the chest X-ray, the decision to perform a CT of the chest, abdomen and pelvis was made to exclude a perforation. The CT was reported as showing a moderate amount of abdominal free fluid and air beneath the anterior abdominal wall (figure 2).

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Figure 1 Chest X-ray performed on postoperative day 7.

DIFFERENTIAL DIAGNOSIS

On the basis of the CT results, our patient was brought to theatre later that day. Laparotomy was performed which showed gangrenous anastomotic disruption and faecal peritonitis with evidence of formed faeces in the pelvic cavity.

TREATMENT

The abdominal cavity was washed out with 6 L saline 0.9% and a terminal colostomy formed with the rectal stump oversewn. A blakes drain was left in pelvis and the abdomen was closed with clips and tension sutures.

OUTCOME AND FOLLOW-UP

Our patient was electively admitted to HDU postoperative for supportive care and required 12 h of inotropic support with norepinephrine. Blood cultures taken preoperatively were now reported positive for coliforms and bacteroides and our patient was started on an intravenous piperacillin/tazobactam 4.5 G three times a day, gentamycin 280 mg once daily and fluconazole 400 mg once daily as per recommendation by our microbiology department. He was also started on total parenteral nutrition (TPN) for nutritional support.

Following an uneventful 2 days postoperative admission to HDU, our patient's observations were stable. He reported to be

feeling well and he was able to tolerate a light diet. He was transferred back to the surgical ward for 1 week of TPN and on-going postoperative rehabilitation.

DISCUSSION

The mortality rate from generalised faecal peritonitis varies from centre to centre but studies have reported mortality rates in excess of 50%.¹ Recognition and early treatment of this life-threatening condition is therefore paramount.

The most significant feature of this case was the absence of signs or symptoms in keeping with faecal peritonitis. Our patient was afebrile and had a normal WCC.

A review of the recent medical literature did not yield any similar case reports that demonstrated an atypical presentation of faecal peritonitis on the basis of advancing age. There are, however, a large number of case reports that cite immune suppression as key factor which can mask the development of infection, thereby reducing the host's response once it has become established. This ultimately results in an atypical presentation of generalised peritonitis.²⁻³

As advancing age is a recognised risk factor for impaired immune function, it is not unreasonable to assume that the inability of our patient to mount an appropriate immune response to faecal contamination of the peritoneal cavity may in part be explained by advancing age. Indeed, some studies have reported that approximately 40% of the elderly patients with acute abdomen were misdiagnosed, contributing to an overall mortality of approximately 10%.⁴ This case therefore highlights the importance of keeping an open mind when formulating a differential diagnosis for abdominal pain in the elderly patient.

Learning points

- ▶ Elderly patients presenting with an acute abdomen may not display the classic signs and symptoms when compared to younger patients.
- ▶ Elderly patients presenting with an acute abdomen may not demonstrated the same immunological response in terms of full blood count and C reactive protein when compared with younger patients.
- ▶ It is very important to keep an open mind when diagnosing abdominal pain in elderly patients.
- ▶ More aggressive use of radiological investigations may be justifiable when formulating a differential diagnosis for abdominal pain in elderly patients.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Scholefield H, Wyman A, Rogers K. Management of generalized faecal peritonitis-can we do better? *J R Soc Med* 1991;84:664-6.
- 2 Fauci AS, Dale DC, Balow JE. Glucocorticoid therapy: mechanisms of action and clinical considerations. *Ann Intern Med* 1976;84:304-15.
- 3 Fujiwara H, Nomura H, Yasuda K, et al. Acute appendicitis complicated with necrotizing soft tissue infections in the elderly: report of a case. *Hepatogastroenterology* 1999;46:1702-5.
- 4 De Dombal F. Acute abdominal pain in the elderly. *J Clin Gastroenterol* 1994;19:331-5.

Figure 2 CT of the abdomen performed on postoperative day 8.

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