Hypothyroidism presenting as acute abdomen

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A 47-year-old woman presented as an emergency with a 12-day history of generalised abdominal pain, most severe in the lower abdomen, constipation, abdominal distension and loss of appetite. She had undergone subtotal thyroidectomy for hyperthyroidism 10 years earlier.

On examination she was afebrile, dehydrated, and was haemodynamically stable. Abdomen was distended, there was rebound tenderness in the lower quadrants with tinkling bowel sounds. There was a leucocytosis but her urea and electrolyte levels were within normal limits. Her plain X-ray abdomen is shown in the figure.

Questions

1 What is the most probable diagnosis?
2 What medical condition may underlie this clinical presentation?

Figure X-Ray of abdomen (supine)
Answers

QUESTION 1
The clinical diagnosis is intestinal obstruction. As she has both small and large bowel loops seen on the plain film, one has to rule out colonic obstruction.

QUESTION 2
A mechanical colonic obstruction or paralytic ileus. This can be resolved by a contrast enema which, in our patient, showed no mechanical obstruction.

As her abdominal signs worsened over a period of time a decision was made to perform laparotomy. At laparotomy there was some ascitic fluid and there was dilatation of both the small and large bowel with no evidence of mechanical obstruction. The postoperative course was satisfactory, mild hypotension responding to fluid replacement. On the second postoperative day thyroid function test results were returned showing marked reduction in free thyroxine at 2 pmol/l (9.8 – 23.1), tri-iodothyronine less than 1 pmol/l (3.5 – 6.5) and thyroid-stimulating hormone at 6.26 µg/l (0.35 – 5.5). The patient was commenced on intravenous tri-iodothyronine, 20 mg bid. Her clinical condition improved, abdominal signs resolved and she was discharged home on thyroxine.

Discussion

Hypothyroidism presenting as acute abdomen is rare. Previous reports of acute ileus in myxoedema emphasise the inadvisability of surgical intervention. Wells et al reported a patient with myxoedema and ileus and described abnormalities in the axons showing a severe autonomic neuropathy predominantly affecting the extrinsic nerves of the colon. Myxoedema is known to be associated with polyneuropathy in Schwann cell disease due to mucopolysaccharide deposition. Byrom (reported in 2) showed that this deposition disappeared with thyroid hormone replacement. However, prognosis in these patients was poor and death has occurred.

The term ‘internal myxoedema’ has been used to describe these patients who do not appear to have any external features of myxoedema. Myxoedema as a cause of acute abdomen should be kept in mind in patients who have had previous thyroidectomy for hyperthyroidism and early hormone replacement is imperative. Other important causes of the acute abdomen such as obstruction or peritonitis must be excluded as far as possible and unnecessary laparotomy avoided.

The present case illustrates that, when an obvious cause of paralytic ileus is not apparent, one should consider hypothyroidism, particularly if there is a previous history of thyroid surgery. When the diagnosis is unclear a laparotomy may still be followed by a satisfactory clinical outcome.

Final diagnosis

Paralytic ileus due to hypothyroidism.

Keywords: paralytic ileus, hypothyroidism

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