Rare disease

The medical mystery of the fatty mesentery

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Summary

An 86-year-old gentleman presented with a 3-month history of nausea, anorexia and excruciating generalised abdominal pain. He had been discharged a week earlier from another hospital. No diagnosis had been made. Clinically the patient was feverish, with a palpable, tender and poorly defined mass in his epigastrium. He had elevated inflammatory markers and deranged electrolytes. An ultrasound scan revealed thickening and hyper echogenicity of the small bowel mesentery. A CT scan was recommended; this revealed a diagnosis of mesenteric panniculitis. First described in 1924, mesenteric panniculitis is a benign inflammatory condition of the bowel mesentery. With only a handful of cases being reported in the UK, the authors thought that they had come across a rarity. This case report focuses on the aetiology, diagnosis, pathology and treatment of mesenteric panniculitis. By examining the literature, the authors also suggest that it is relatively underdiagnosed and may be more common than first thought.

BACKGROUND

I decided to write up the case because the condition is relatively benign and once diagnosed can be treated easily. If it was not for the keen eye of our radiology colleagues, the patient may have been extensively and invasively investigated for possible malignancy. Instead, he was treated with a simple course of steroids and made a marked improvement.

I envisage that mesenteric panniculitis is not as rare as suggested from the literature. If more awareness is raised about the condition, patients can be treated more promptly.

I hope this case report will increase that awareness and knowledge to doctors from all specialities; as these patients may present to medical or surgical acute takes.

CASE PRESENTATION

An 86-year-old gentleman presented to the acute medical take with a 6-month history of generalised abdominal pain and intermittent episodes of nausea and vomiting. His appetite was markedly reduced and as a result he had lost almost 20 kg in weight.

The patient was concerned that he may have a malignancy and avoided seeking medical help, until his daughter became increasingly concerned and brought him to hospital.

The patient was otherwise fit and well. His only significant history was a minor cerebrovascular event, which left him with no residual weakness some years ago. His only

medications included lansoprazole and citalopram. He lived alone and was independent of his activities of daily living.

On examination, the patient was clinically dehydrated. The most significant finding on clinical examination was a generally tender abdomen with a well-defined, smooth, tender mass in the epigastrium.

Table 1 reveals the patient's blood results, indicating dehydration, acute renal impairment and raised inflammatory markers.

The patient was initially managed supportively with intravenous fluids, analgesia and antiemetics.

An ultrasound scan was arranged to assess the epigastric mass. This revealed: 'abnormal thickening and hyper-echogenicity of the small bowel mesentery without convincing mass lesion or gross distension of the small bowel loops'.

After discussion with the radiology team a CT scan was ordered (figure 1).

Figure 1 An area of clouding in the small bowel mesentery in the anterior abdomen between L2 and L4 levels consistent with a diagnosis of mesenteric panniculitis. No significant lymphadenopathy.

Table 1 Summary of the patient's blood results

Na+ 162	K+ 2.8	Urea 8.5	Creatinine 112, eGFR 56
Alb 24	ALT 8	AlkPhos 99	Bili 15
cCa 2.31	Amylase <20	CRP 132	
Hb 12.5	WCC 6.42	Plts 153	

Alb, albumin; AlkPhos, alkaline phosphatase; ALT, alanine transferase; Bili, bilirubin; CRP, C reactive protein; eGFR, epidermal growth factor receptor; Hb, haemoglobin; Plts, platelets; WCC, white cell count.

At this point the radiologists had mentioned a condition which we were not familiar with. After searching the literature we were able to understand more about the condition and commenced the patient on the appropriate treatment.

DISCUSSION

Mesenteric panniculitis is also known as ‘mesenteric lipodystrophy’ or the mesenteric manifestation of Weber-Christian disease. It is a benign inflammatory or fibrotic change in the bowel mesentery.

The first case report was described in 1924. There have been 217 case reports worldwide between 1965 and 2010.¹ However, the condition is thought to be more common with one paper suggesting that up to 1% of the population may be affected; based on over 700 postmortems.² Thus far, most cases have been reported in USA, France and Japan. However in 2010, four cases were reported from Merseyside.¹ (This case series described four patients in their 60s and 70s all presenting with chronic abdominal pain. The patient's only had mild abnormalities in their chemistry; but all had a palpable abdominal mass. The patients underwent varying degrees of investigation, ranging from CT scans to colonoscopies and even biopsy. All the patients were subsequently diagnosed with mesenteric panniculitis.)

The male to female ratio is 1.8:1³ and the condition tends to affect the older population. The aetiology is unknown. Some possible causes include associations with infection, trauma or bowel ischaemia. Others postulate an association with vasculitis, granulomatous disease or pancreatitis.⁴ One reported case shows an association with abdominal tuberculosis.⁵

From our search, there were no published cases of mesenteric panniculitis occurring with inflammatory bowel disease and no increased prevalence in patients with abdominal malignancy.¹ A history of abdominal surgery is also shown to be of no significance.

The diagnosis can be made on CT scanning alone. There does not appear to be any role for plain abdominal films or barium studies. Ultrasound findings can also be non-specific, as was the case with the patient.

The CT findings are summarised below:

- ▶ Encapsulated, heterogenous masses localised in the root of the mesentery or adjacent intestinal loops.
- ▶ Intestinal wall thickened.
- ▶ Left-sided orientation of disease.⁶
- ▶ Scattered, well-defined, soft tissue nodules of <5 mm.

From the histology perspective; macroscopically the mesentery is enlarged, nodular, and mimics the neoplastic change of lymphoma.

Microscopically there are multiple fatty cells with foamy cytoplasm and infiltration with monocytes, lymphocytes, lipid laden macrophages and giant cells. Fat necrosis may also occur which may calcify. In terms of prognosis, most cases regress spontaneously after 5 months.⁷ However, case series have shown no change in the size of the mass lesion between 3 and 5 months.⁶ There also does not appear to be any correlation between the size of the mass lesion and the patient's symptoms.

Table 2 The patient's blood results 7 days after commencing treatment

Na +143	K +3.8	Urea 6.7	Creatinine 60, eGFR >90
Alb 25	ALT 20	AlkPhos 123	Bili 5
cCa 2.15	Amylase <20	CRP 35	
Hb 12	WCC 6.72	Plts 140	

Bold values demonstrate where the biochemistry improved.

Alb, albumin; AlkPhos, alkaline phosphatase; ALT, alanine transferase; Bili, bilirubin; CRP, C reactive protein; eGFR, epidermal growth factor receptor; Hb, haemoglobin; Plts, platelets; WCC, white cell count.

The mainstay of treatment focuses on steroid and or immunosuppressant therapy. However, there are no randomised control trials to date.

OUTCOME AND FOLLOW-UP

Patient outcome

After evaluating the data, we decided to treat the patient with a 10 day course of 40 mg of prednisolone and then gradually wean the steroids slowly over the course of a few weeks.

Within 7 days of commencing steroid therapy, the patient's biochemistry dramatically improved, as shown in table 2 (bold values demonstrate where the biochemistry improved).

Subjectively the patient's abdominal pain settled with improved appetite on 2 March 2011. His C reactive protein also fell from 132 on admission to 20 on the day of discharge.

The patient was followed up 2 months later and then 10 months later. He has recovered well, has regained most of the weight he lost and is now living an independent life.

DISCUSSION

Author's note

Mesenteric panniculitis is both a clinical and radiological diagnosis. However, if there are doubts about the nature of the mass on CT and a clinical suspicion of malignancy on clinical grounds, this should be excluded first. In this case, the radiologists were confident of the CT findings and clinically the patient significantly improved with treatment both clinically and biochemically. The case is trying to highlight that in some cases, chronic abdominal pain could be explained by a benign diagnosis and this could avoid more invasive investigations in the frail elderly.

Learning points

- ▶ Mesenteric panniculitis is a rarely reported condition; however it is relatively easy to diagnose on CT.
- ▶ Clinicians should include it in differential diagnosis of chronic abdominal pain, when other more sinister causes have been excluded.
- ▶ The patient is unique in the fact that he presented with abnormal chemistry – this has not reported in the literature. Perhaps his chemistry reflects the chronicity of his symptoms.

Competing interests None.

Patient consent Obtained.

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