An unusual cause for a colonic stricture: a case of *Mycobacterium xenopi* mimicking malignancy

J R E Rees, A Longstaff, H L Rigby, D L Smith, A R Dixon

Large bowel strictures are a common finding on radiological investigation. Causes include primary colonic malignancy, less commonly as a complication of diverticular disease, and may also occur in Crohn’s disease, ischaemia, sites of anastomosis, and rarely intra-abdominal mycobacterial infection. We report a case of delayed diagnosis of a mycobacterial stricture mimicking malignancy due to a rare mycobacterial subtype.

**CASE REPORT**

A 64 year old woman was referred to our care in 2001. She was referred with a diagnosis made at our partner hospital of a malignant transverse colon stricture. This was identified by double contrast barium enema examination (fig 1) the patient having developed a change in bowel habit, weight loss, and abdominal pain. She had a past history of pulmonary mycobacterial infection during childhood.

Preoperative computed tomography of the abdomen confirmed the presence of a transverse colon mass but revealed no other intra-abdominal abnormality (fig 2).

At the time of admission a hypochromic microcytic anaemia of 97 g/l and a preoperative albumin of 30 g/l were noted. A laparotomy was performed and a stricturing lesion was confirmed in the transverse colon. This did not have any malignant features and a stricturoplasty and full thickness biopsy was undertaken. Histological examination revealed fibrosis, capillary ectasia, and non-specific mild pericapillary chronic inflammatory cell infiltrate. The changes were consistent with but not specific for secondary ischaemia. There were no specific features of Crohn’s disease and no evidence of necrosis, granulomas, giant cell formation, and on Ziehl-Neelsen staining no acid fast bacilli were seen.

The patient remained well for nine months before developing symptoms of severe postprandial pain, distension, audible borborygmus, and severe weight loss. Contrast examination of the large bowel demonstrated a recurrent transverse colon stricture and new ascending colon and small bowel strictures.

The patient was readmitted; however, on admission she was found to be grossly hypoalbuminaemic (14 g/l) and anaemic. Enteral feeding was instituted and blood transfusion undertaken. A chest radiograph showed left upper lobe consolidation suggestive of tuberculosis. Sputum cultures were sent for analyses and initial results revealed acid fast bacilli. Antituberculous therapy was therefore started: isoniazid 300 mg/day; rifampacin 600 mg/day; ethambutol 25 mg/kg for two months and 15 mg/kg for 16 months.

Enteral nutrition was instituted in hospital and continued at home for four weeks. A six week culture revealed the organism to be *Mycobacterium xenopi*. Outpatient review at two, six, and nine months showed progressive resolution of the gastrointestinal symptoms with weight gain, normalisation of serum albumin, significant improvement in respiratory symptoms, and no recurrence of the previous anaemia.

**DISCUSSION**

*Mycobacterium xenopi* is an uncommon slow growing non-tuberculous mycobacterium that is usually non-pathogenic.
Learning points

• In the presence of a history of previous mycobacterial infection a high index of suspicion should be held for mycobacteria as a cause of a colonic stricture.
• Colonoscopic examination is desirable in any patient who presents with a previous history of mycobacterial infection, or is atypical in any way even if contrast study has already been performed.
• That caution should be exercised in the sterilisation of any instruments used in these patients especially those not suitable for autoclave treatment.
• Prolonged antituberculous treatment, perhaps with the addition of clarithromycin, is indicated.
• Antimicrobial therapy leads to symptomatic resolution without the need for surgery.

and grows optimally at temperatures between 42°C and 45°C.\textsuperscript{3} It is recognised to frequent hospital hot water systems, is of low pathogenicity, and can sometimes be found in the bronchi of cystic fibrosis patients.\textsuperscript{4} It typically presents as a primary pulmonary infection in the immunosuppressed and those with coexisting pulmonary disease—for example, chronic obstructive pulmonary disease.\textsuperscript{5, 6} The organism has also been implicated in a significant outbreak of infection in the context of improper surgical instrument sterilisation.\textsuperscript{7} It is resistant to routine disinfection and is a common finding in domestic drinking water. Thus significant caution must be exercised when cleaning and sterilising instruments that are not suitable for autoclaving—for example, colonoscopes.

Mycobacteria are well recognised as the cause of colonic disease. Manifestations include, typically colonic stricture but also bleeding, perforation, and cachexia. Strictures have been noted to mimic both malignancy and inflammatory bowel disease.\textsuperscript{8} Infection is most commonly diagnosed at colonoscopy, where strictures, ulcers, polyps, or masses may be seen. Biopsy of such lesions may reveal tuberculous granulomas and Ziehl-Neelsen staining can show acid fast bacilli.\textsuperscript{9} The majority of colonic disease arises because of \textit{M. tuberculosis}; however, rarely non-tuberculous mycobacteria have been identified—for example, \textit{M. chelonae} and \textit{M. fortinum}, although one report suggests these may be colonoscopic contaminants. \textit{Mycobacterium xenopi} has not been previously described in the aetiology of gastrointestinal disease.

The treatment of \textit{M. xenopi} remains challenging. It is less susceptible to first line antituberculous agents when compared with \textit{M. tuberculosis} and requires prolonged treatment regimens.\textsuperscript{7}

Recent work in mice has shown that the use of clarithromycin may be advantageous; however, an ideal regimen using clarithromycin has not been identified and in vitro susceptibility testing of isolates may be helpful in tailoring chemotherapy.\textsuperscript{9}

CONCLUSION

\textit{Mycobacterium xenopi} is an uncommon cause of human infection and it typically causes pulmonary disease in the immunosuppressed and those with coexisting pulmonary pathology. Mycobacteria are well recognised in the aetiology of colonic strictures; however, \textit{M. xenopi} has never been described as a causative organism.

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