

AN UNUSUAL RADIOGRAPHIC PRESENTATION OF COLONIC CARCINOMA AFTER MEDICATION FOR PEPTIC ULCER

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SYNOPSIS

An elderly lady presenting with chronic abdominal pain was found on plain abdominal X-ray to have radioopaque contrast media in her large gut from the caecum up to the splenic flexure of the colon. This picture changed little after nine days despite induced bowel motion. Barium enema and laparotomy confirmed an adenocarcinoma of the splenic flexure and descending colon. The contrast media was found to contain bismuth which presumably was ingested for relief for peptic ulcer pain.

INTRODUCTION

Patients suspected of colonic carcinoma usually have a barium enema done if endoscopy is not readily available. A plain abdominal X-ray is frequently of little help but in this case report, such an X-ray not only aided the diagnosis but also localised the proximal part of the growth.

CASE REPORT

A 73 year old Chinese lady was admitted complaining of epigastric pain for the past 40 years. She had seen several doctors and Chinese physicians and had received medication with relief. She was told she had "gastric trouble." No barium studies were ever done. Over the past month, the pain had shifted to the left subcostal region, was colicky and associated with melaenic stools. There was marked weight loss, no haematemesis and she denied a recent change in bowel habit.

She was pale and an abdominal mass measuring four cm. by four cm. palpable below the left subcostal margin was mobile laterally and tender. The liver was enlarged two cm. below the right subcostal margin. Rectal examination confirmed melaena. Her gums were normal and there was no other significant findings. Haemoglobin was 9.4 g/dl, white blood count $9.1 \times 10^9/l$ ($9100/mm^3$), blood urea and electrolytes and urine microscopy were normal.

An abdominal X-ray showed her ascending and transverse colon well outlined up to the splenic flexure with what looked like barium. The descending and sigmoid colon had traces of the same radiopaque material. This picture clearly pointed to a growth of the colon beginning at the splenic flexure with incomplete obstruction. X-rays on the third and ninth day thereafter showed no significant clearing despite induced bowel motions. A barium enema then revealed a long

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narrow stricture of the descending colon starting at the splenic flexure with marked irregularity of the narrowed segment. The more proximal parts of the colon remained radio-opaque on the x-ray.

At laparotomy, a large hard tumour in the splenic flexure and extending 22 cm. along the descending colon was found. Para-aortic lymph nodes were enlarged and the liver had metastatic nodules. A left hemicolectomy and splenectomy were done. Histology showed a moderately differentiated adenocarcinoma of the colon. Contents of the colon proximal to the growth on chemical analysis revealed the presence of bismuth.

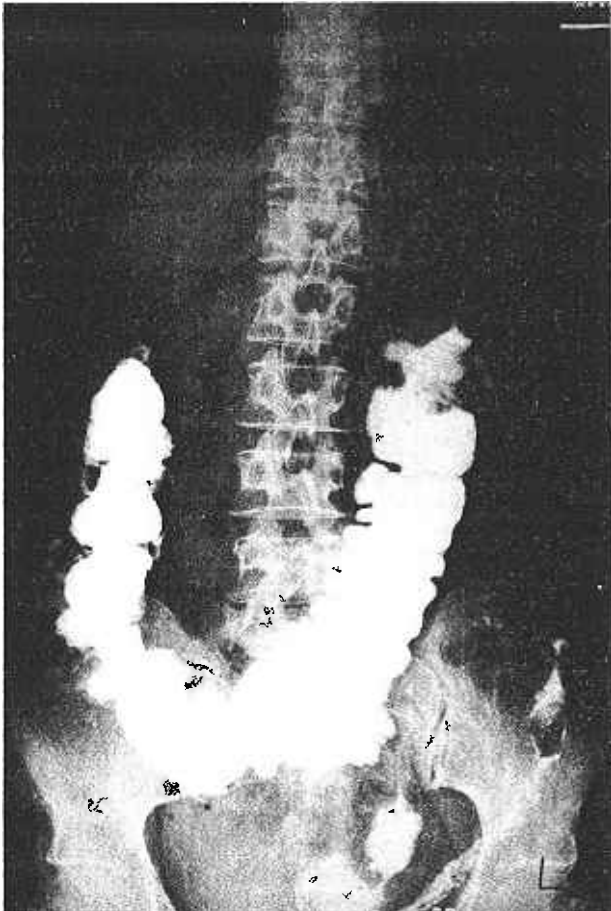
DISCUSSION

Contrast media used in radiology are usually the salts of heavy metals and barium is the heavy metal most widely used. This lady denied having had any barium studies done. In view of her "gastric trouble", she must have taken antacids and with the onset of the obstruction, these preparations remained in the colon without apparent side effects. Of the antacids available, magnesium trisilicate and aluminium salts are the most frequently prescribed but these are not radio-opaque. The atomic numbers of magnesium, aluminium and silicon are 12, 13 and 14 respectively; that of barium is 56 and of bismuth 83. The

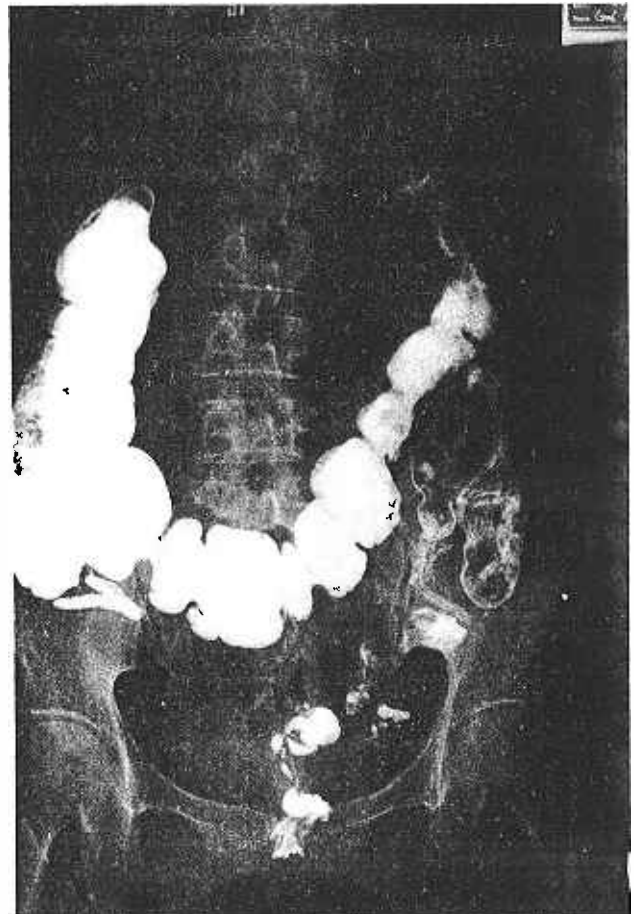
latter are radio-opaque and bronchography was first made practicable by Chevalier Jackson who used bismuth for the procedure.

Bismuth by parenteral administration was once widely used in the treatment of syphilis and yaws. Its insoluble salts are still used orally albeit uncommonly nowadays for their supposed protective and antacid action. Critical assessment of these effects however has not confirmed their value (Martindale). Owing to the limited gastrointestinal absorption, oral insoluble bismuth compounds do not give rise to acute toxic effects, but a reversible neurological syndrome characterised by deterioration of mental ability, confusion, tremor and impaired coordination has occurred in colostomy and ileostomy patients taking bismuth subgallate by mouth over long periods (Martindale). None of these signs, neither the blue line on the gums, was present in this lady.

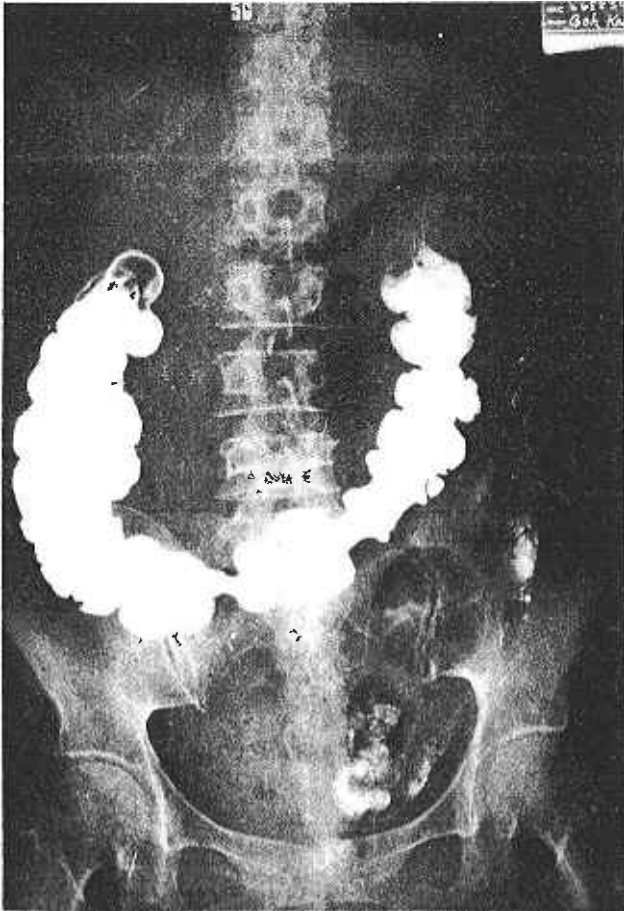
Recently four drugs have been shown to accelerate the initial healing rate of chronic peptic ulcer. These include carbenoxolone, high dose antacid therapy, cimetidine and colloidal bismuth. The latter two drugs have been shown to be equally effective in both gastric and duodenal ulcer and to be devoid of significant side effects. As such, bismuth ingestion may occur more frequently than in the past and it will be useful to remember that bismuth with such a high atomic number is radio-opaque.



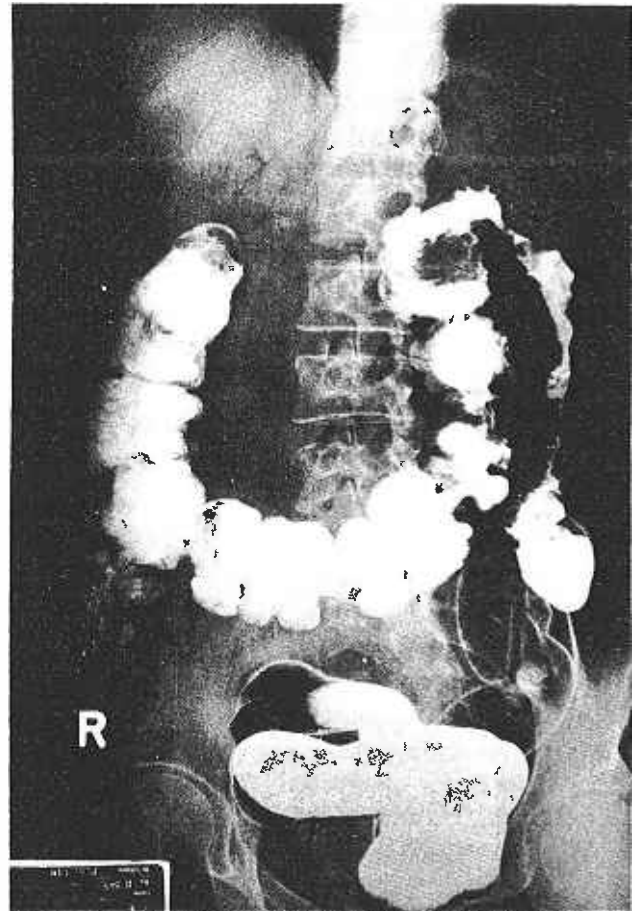
Plain abdominal X-ray films taken on admission



three days



nine days



and a barium enema film done 12 days later.

REFERENCES

1. Jackson, C: The bronchial tree. Its study by the insufflation of opaque substances in the living. *Amer. J. Roentgenol.* 5 : 454-455, 1918.
2. Martindale. *The Extra Pharmacopoeia*, 27th edition. The Pharmaceutical Press, London, 1977.