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CASE REPORT

Colo-pleural fistula

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ABSTRACT: A case of non-traumatic colo-pleural fistula is recorded for the first time as the cause of a long-standing pleural empyema. The patient was treated with drainage, antibiotics and parenteral nutrition. The fistula was the result of a diverticulitis coli and/or a pancreatitis.
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Fistulae between the abdomen and pleura are rare and are associated with a high mortality when not recognized in time. The fistulae most often develop in the course of a pancreatitis or a subphrenic abscess. We present a patient in whom the aetiology to the abdominal symptoms and the pleural empyema was a colo-pleural fistula.

Case report

A 63 yr old, previously healthy male with no abuse history was admitted complaining of irregular stools and faint left-sided upper abdominal pains for some months. On admission he was febrile. A barium enema revealed a slight diverticulitis. Other routine investigations proved normal. A conservative regimen was instituted, resulting in the abatement of the abdominal discomfort.

Two years later he was readmitted with similar complaints and bouts of sweating, dyspnoea and tachycardia. Serum amylase was elevated, up to 4,400 units·l^{-1} (100–360). It normalized spontaneously in 3 days. Blood gas analysis, endoscopic retrograde cholangio-pancreatico-graphy (ERCP), biligraphy and ultrasound of the abdomen were all normal. Chest X-ray demonstrated a left-sided pleural effusion, but was not followed up. The patient was treated with antibiotics and discharged after a month, but at home he felt weak with elevated body temperature, anorexia, gastric pains and a productive cough. His general practitioner suspected a left-sided pneumonia and ordered antibiotics, with no clinical effect. He was again admitted to hospital 2 months after the onset of symptoms, with a weight loss of 25 kg. On admission he was in a poor condition, breathless, with radiographic evidence of a hydropneumothorax.

After transferral to the department of respiratory medicine, a pleural aspiration revealed foul-smelling pus containing Gram-negative and Gram-positive cocci. At culture, anaerobic bacteria were grown. Treatment with metronidazole, ampicillin and gentamicin was established. A pleural drain was inserted and daily irrigation with saline was carried out until the pleural fluid was sterile and the fever had subsided. Biochemical examination of the fluid was not performed. One week later the abdominal symptoms reappeared with nausea, borborygmia and left-sided upper abdominal pains irradiating to the back, relieved after diarrhoea. An anaemia of the iron-deficiency type, occult blood in the stools and a swelling

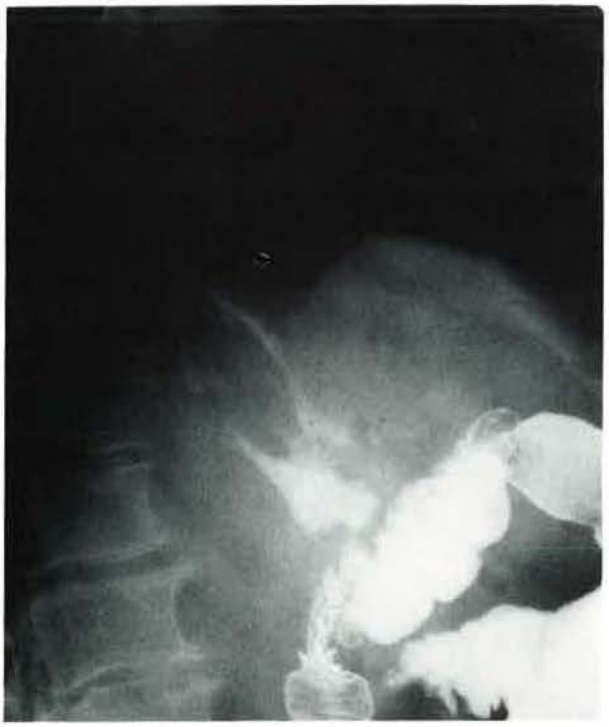

Fig. 1. – Contrast filled fistula arising from the colon, traversing the diaphragm and reaching the pleural cavity.

in the left hypochondrium were observed. A barium enema finally demonstrated a fistula with a diameter of 5 mm, originating from the descendent colon 10 cm below the left flexure and passing through the left diaphragm (fig. 1). Contrast filling but no pus or gas was seen in the retroperitoneum. After parenteral nutrition for 2 weeks the fistula was barely visible at fistulography and the patient made an uneventful recovery with a weight gain of 20 kg. During a 6 month follow-up he presented no problems.

Discussion

The pleural empyema with a colonic flora was caused by a colo-pleural fistula. This could probably be attributed to a rupture of an inflammed bowel diverticulum, the bowel being otherwise normal at radiography. Another possibility was an erosion of the descendent colon caused by a pancreatitis, which on the other hand could be due to leak of enteric juice from a defect in an inflammed bowel wall. Acute pancreatitis is seen in approximately ten percent of cases accompanied by a pleural effusion. A persistent pleural effusion for more than two weeks should make one suspicious of a complication to be handled accordingly [1]. Irrespective of the genesis, a colo-pleural fistula is an exceptionally rare finding. It has been described after traumatic rupture of the diaphragm [2, 3], but never so far following a gastrointestinal disorder.

In retrospect the fistula might have been diagnosed at an earlier stage by serial chest X-rays and thoracocentesis with biochemical analysis and culture of the pleural fluid [4–6]. A high concentration of amylase in the pleural fluid reflects a pancreatitis, whereas culture of a bowel flora may arouse suspicion of an abdominal focus, with a fistula, being strongly supported by the finding of a pneumothorax [3].

During parenteral nutrition, nearly all colonic fistulae close spontaneously within two weeks, provided there is no mucosal growth in the fistula, or malignancy and no obstruction of the bowel distal to the fistula [7]. All uncomplicated fistulae should be treated conservatively if possible. In the present case the fistula closed during parenteral nutrition, drainage of the pleural empyema and antibiotic treatment.

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Fistule pleuro-colique compliquant une diverticulite et une pancréatite. L.L. Olesen, J.T. Pedersen.
RÉSUMÉ: Il s'agit de la première observation d'un cas de fistule pleuro-colique non-traumatique entraînant un empyème pleural chronique traité par drainage, antibiotiques et nutrition parentérale. La fistule résultait d'une diverticulite du côlon et/ou d'une pancréatite.
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