Ruptured spleen after electric convulsion therapy

Reported injuries in abdominal organs after ECT are rare and include perforation or bleeding from peptic ulcers and perforated viscera.1-3 We report here for the first time a ruptured spleen after ECT.

Case report

A 50-year-old woman suffering from severe endogenous depression was admitted to Newtown Hospital, Worcester, in December 1978 for a course of electric convulsion therapy (ECT). On 18 December she had her first session of treatment without incident, and the second two days later. On both occasions she received 8 ml (80 mg) methohexitone sodium, 13 mg atropine, and 30 mg suxamethonium chloride. Within four hours of her second session of treatment, however, she began to complain of increasingly severe epigastric pain radiating to the back below her scapula associated with pain in her right shoulder-tip and a worsening acute pain in her abdomen. She had a short history of epigastric discomfort after meals relieved by antacids and exacerbated by fats. There was no history of trauma. A perforated duodenal ulcer was tentatively diagnosed, and she was transferred into the care of a surgical team.

At emergency laparotomy she was found to have several litres of free blood and clots in her peritoneal cavity resulting from a ruptured spleen of normal size. This was subsequently found to be histologically normal. There was no evidence of duodenal ulceration. Splenectomy was performed.

Comment

This patient presented no history of trauma or splenic disease, and her spleen was histologically normal. Spontaneous rupture of the spleen is a well-recognised but rare condition.4-6 Nevertheless, the time from her second session of treatment to the onset of symptoms (under four hours) strongly suggests that the ECT was relevant to the development of the ruptured spleen.

I thank Mr J Black, consultant surgeon, and Dr P Hall, consultant psychiatrist (Worcester Royal Infirmary), for their kind permission to report this case.


(Accepted 10 January 1980)

Worcester Royal Infirmary, Ronkswood Branch, Worcester WR5 1HW
D ERNST, FRCS, surgical registrar

Symptomatic treatment of primary pneumatosis coli with metronidazole

Pneumatosis coli is a benign condition even though the symptoms may be disabling. Gas cysts are found predominantly in the left side of the colon and the rectum. The condition must be distinguished from secondary pneumatosis cystoides intestinalis, in which suberosal gas is found anywhere in the gastrointestinal tract and its mesentery, and from the infantile type, which is associated with necrotising enterocolitis. The aetiology remains obscure. The two most popular concepts are the pulmonary theory and that of the anaerobic gas-forming organism.

Case reports

(1) A 61-year-old woman presented with a seven-year history of excessive flatus; diarrhoea with excessive mucus, often with incontinence; and vague lower abdominal pain. She also suffered from depression and mild chronic bronchitis. The results of physical examination and sigmoidoscopy were normal. Barium enema showed pneumatosis coli from the mid transverse colon to the rectosigmoid region. These changes were also apparent on plain radiographs. On three occasions she was admitted for oxygen treatment.1 Each time her symptoms were relieved for only a few weeks. Finally she was transferred to the infirmary type, which is associated with necrotising enterocolitis. The aetiology remains obscure. The two most popular concepts are the pulmonary theory and that of the anaerobic gas-forming organism.

Comment

There is now strong circumstantial evidence that the gas produced in primary pneumatosis coli is of bacterial origin.4-6 Despite the frequent association with pulmonary disease the gas has a high hydrogen content and is therefore unlikely to originate from the chest. Lactulose, which depends on bacterial fermentation for its action, is known to aggravate the symptoms. Furthermore, end expiratory concentrations of hydrogen are raised in these patients and are further raised after lactulose challenge. Pulmonary disease may affect the clearance of hydrogen, leading to its accumulation at the site of

(Accepted 10 January 1980)
production. Oxygen treatment undoubtedly relieves the symptoms and the cysts regress. Since hydrogen is more diffusible than oxygen the mechanism is difficult to explain unless oxygen prevents the production of hydrogen by impairing a facultative anaerobic organism. The condition regresses after (unrelated) treatment with ampicillin, and animal models can be made to simulate the condition using Clostridium perfringens. That the condition remains uncommon in patients with severe respiratory disease suggests that hydrogen "retention" is not a major factor. Local abnormalities are probably responsible and a genetic link has been suggested. An underlying structural difference in the collagen of the supporting tissue of the gut and lung may be responsible.

The dramatic response of these two patients to metronidazole is further evidence to support the thesis that the cysts of pancreatic colitis are maintained by gas produced by anaerobic organisms. Since the condition relapses after treatment with oxygen it is likely to relapse also after that with metronidazole, because both are probably effective for the same reason. But metronidazole provides a simple and safe treatment without recourse to hospital admission for oxygen treatment.

I thank Mr A G Cox for help in preparing this paper and for permission to report on patients under his care.

Footnote Since writing this report we have treated a third patient with intermittent metronidazole with pronounced symptomatic improvement.


(Accepted 15 January 1980)

Northwick Park Hospital and Clinical Research Centre, Harrow, Middlesex HA1 3UJ
B W ELLIS, MB, FRCS, senior registrar in surgery

Endoscopic retrograde cholangiopancreatography for unexplained upper abdominal pain

The management of patients with abdominal pain of unknown aetiology is difficult and often a series of expensive investigations is carried out. Endoscopic retrograde cholangiopancreatography (ERCP) is often suggested to exclude pancreatic disease and gall stones not seen on cholecystography. In our experience, however, this investigation is usually unhelpful, and we have therefore reviewed our results.

Patients, methods, and results

Out of 806 ERCP examinations attempted during the past five years 140 had been requested for patients who had undiagnosed upper abdominal pain. Seventy of the 140 had not undergone previous biliary surgery (group 1). Their liver function tests; serum amylase concentration; and the results of cholecystogram, barium meal, or upper gastrointestinal endoscopy examinations were normal. The biliary or pancreatic duct systems, or both, were opacified in 59 (84%) of them. The diagnoses are shown in the table. In seven (10%) a diagnosis was made at ERCP; three had peptic ulceration and four had pancreatic disease (benign stricture, carcinoma, chronic pancreatitis, abnormal medial wall of the duodenum). Out of the 81 who had a psychiatric disorder was diagnosed 12 improved after treatment with psychotrophic drugs. Three of the remainder had a personality disorder and three were depressed but failed to attend for follow-up. In two patients in whom ERCP was unsuccessful pancreatic disease was diagnosed later by other methods (both had chronic pancreatitis diagnosed at laparotomy or by ultrasonography). The remaining 70 of the 140 patients with undiagnosed abdominal pain had previously undergone biliary surgery. In 45 of them some abnormality of liver function tests had suggested the need for ERCP. But in 25 liver tests were normal (group 2). Their final diagnoses were similar to those in the patients in group 1 (table).

Diagnoses and outcome in 70 patients examined by ERCP who had not undergone biliary surgery (group 1) and 25 patients who had had previous surgery (group 2)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Group 1 (%)</th>
<th>Group 2 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosed with ERCP</td>
<td>7 (10%)</td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Pain continue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peptic ulcer</td>
<td>6 (9%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Diverticular disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost to follow-up</td>
<td>9 (13%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Surgical remission</td>
<td>4 (6%)</td>
<td></td>
</tr>
<tr>
<td>Improved on roughage diet</td>
<td>5 (7%)</td>
<td></td>
</tr>
<tr>
<td>Pancreatic disease diagnosed other methods</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Diagnoses to which ERCP could not have contributed</td>
<td></td>
<td>2 (8%)</td>
</tr>
<tr>
<td>Gall bladder stones at laparotomy</td>
<td>6 (9%)</td>
<td></td>
</tr>
<tr>
<td>Improvement after cholecystectomy</td>
<td>2 (3%)</td>
<td></td>
</tr>
</tbody>
</table>

*Common bile duct stones; duodenitis.

In both groups one or more ducts were cannulated in 84% of cases. There was 79% success in opacifying the pancreatic duct, similar to the 78%-98% of other series, even though the examinations were made by different operators of varying experience. We confirmed observations that the failure rate is more easily opacified after biliary surgery (44%; group 1, 60% group 2). When the results in the patients in whom both ducts were opacified are compared with those in whom only one or neither duct was opacified the proportions of the groups remain similar. Thus it is unlikely that we have undiagnosed pancreatic disease because of technical failure.

Comment

The cause of abdominal pain is often never found. The pain may continue even though every routine test result is normal. After expensive investigations ERCP is considered to try to exclude gall stones or pancreatic disease. Our results show that the value of ERCP in making a definite diagnosis is low, although a normal ERCP result may strengthen the doctor’s determination to treat with psychotrophic drugs or a high-fibre diet. Indeed, our three patients with peptic ulcer could have been diagnosed by routine upper gastrointestinal endoscopy, while the value of diagnosing pancreatic carcinoma early is doubtful. Nevertheless, laparotomy is unlikely to give better results than ERCP, and has a greater morbidity and mortality. Careful prior selection of patients by ultrasound or computed tomography might increase the value of ERCP, but neither is cheap and the availability of computed tomography is restricted. ERCP is more likely to be of value after biliary tract surgery since the results of intravenous cholangiography are often uncertain. But even in these patients we found few abnormalities among those with normal liver function tests.

We suggest that before submitting patients with undiagnosed abdominal pain to ERCP the exhausted doctor should try treatment with bran or antidepressant drugs.

This work was presented to the British Society of Gastroenterology in March 1979. We thank Drs P H Cotton, A T R Axon, M D Hellier, and I T Gilmore, who performed some of the examinations, and ICI Ltd for financial support. P W N Keeling is a Medical Research Council training fellow.


(Accepted 10 January 1980)

Gastrointestinal Research Unit, Rayne Institute, St Thomas’s Hospital, London SE1 7EH
JOHN BULL, MB, MRCP, senior medical registrar
P W N KEELING, MRCP, MRCP, honorary senior registrar
R P H THOMPSON, DM, FRCP, consultant physician