

serious risk, in our opinion it deserves a more extensive trial. It may represent a new way to induce remissions in this often fatal condition.

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## Splenic Abscess due to *Salmonella agona*

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Splenic abscess is an uncommon surgical problem. Reid and Lang (1954) quoted an incidence of 67 out of 16,514 necropsies (0.4%). In only one of these cases was the correct diagnosis made before death.

The following case is unusual in that *Salmonella agona*, which until recently was a very uncommon salmonella serotype in Britain, was the cause of a very large splenic abscess.

### Case Report

The patient, a 22-year-old college student, was admitted to hospital on 5 January 1971. One month previously she had developed an influenza-like illness with general malaise, cough, and purulent sputum. At the same time some of her colleagues had developed a gastrointestinal illness which occurred after a college supper dance. The patient, however, did not attend the function and did not have any gastrointestinal symptoms at that time. She continued to remain unwell and febrile with rigors and symptoms of a chest infection. Two weeks before her admission to hospital she began to develop left-sided abdominal pain which was later accompanied by swelling of the left hypochondrium and diarrhoea. These symptoms persisted up to her admission. There was no notable past medical history.

On examination she appeared thin, ill-looking, and pale. Temperature was 103°F (39.4°C), pulse 120/min, regular, and blood pressure 130/80 mm Hg. There was dullness on percussion of the chest, and breath sounds were reduced at the left base. On palpation a very large, fluctuant tender mass was occupying the whole of the left hypochondrium. Rectal examination was negative. A provisional diagnosis of intra-abdominal abscess was made.

Investigations were: haemoglobin 10.4 g/100 ml; M.C.H.C. 32.4 g/100 ml; white blood count 20,400/mm<sup>3</sup>, with 86% neutrophils; E.S.R. 68 mm/hr. Several blood cultures were negative. Chest and abdominal x-ray pictures confirmed the presence of a mass in the left hypochondrium. A clinical diagnosis of a splenic abscess was made. On 6 January under a general anaesthetic, an incision was made over the maximal area of fluctuation and 2.5 l. of foul yellow pus was obtained. After drainage this was seen to have come from an enlarged spleen that was thinned owing to distension by the pus. Tube drainage was inserted.

Bacteriological examination of the pus yielded a profuse growth of *Salm. agona*. Examination of the faeces showed the same organism to be present. Chemotherapy with ampicillin was started. Although pus continued to discharge through the drainage tube the patient's clinical condition slowly improved. On 22 January, under a general anaesthetic, splenectomy was performed through an upper midline incision and 600 g of spleen was re-

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moved. After this her progress was uneventful and she was finally discharged from hospital on 15 February, though faeces still showed a scanty growth of *Salm. agona* to be present. At outpatient review on 12 March the wound was fully healed, she had gained weight, and she felt very well. A faeces culture was still positive for *Salm. agona*.

### Comment

*Salm. agona* was until recently a very uncommon salmonella serotype, although in the nine months preceding April 1971 450 cases of infection were reported (*British Medical Journal*, 1971), most of these being sporadic cases with a few small outbreaks and one large outbreak which occurred after a college supper dance. Although the patient did not attend the function associated with this large outbreak her initial infection may have been related to it.

Many different organisms have in the past been known to be the cause of splenic abscess.

Vita *et al.* (1969) reported a case of splenic abscess due to *Salm. typhimurium* which they treated similarly—that is, by splenotomy and drainage followed by splenectomy.

Splenic abscess is a potentially dangerous condition. McSherry and Dineen (1962) reported 100% mortality in 12 cases. At necropsy nine patients were found to have generalized pyaemia. Of the remaining three, one had a solitary splenic abscess and a splenic fistula from a carcinoma of the colon, one (a three-year-old boy with acute leukaemia), had an ear infection with resultant staphylococcal septicaemia and multiple abscesses which were localized in the spleen only, and the other patient (a 66-year-old diabetic with a mixed proteus and non-haemolytic streptococcal septicaemia from a foot infection) was found to have a large necrotic spleen abscess. McSherry and Dineen emphasized that the pathogenesis of splenic abscess was usually one of three forms—metastatic (75%), posttraumatic (15%), or contiguous infection usually from gastric or colonic lesions (10%). With regard to splenic abscess as a result of contiguous infection, as well as McSherry and Dineen's case noted above, Kuiper *et al.* (1970) found among their records from 1936 to 1968 a previous case of isolated abscess secondary to a perforation of a gastric ulcer. Cultures grew *Clostridium welchii*. They also reported a case of splenic abscess due to *Staphylococcus aureus*, which they treated by splenectomy.

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