

## ***Clostridium difficile* Toxic Megacolon following splenectomy**

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**SUMMARY:** A case of toxic megacolon following splenectomy for lymphoma is presented. The aetiology of *Clostridium difficile* infection is reviewed and the hazards of perioperative prophylactic antibiotics are discussed.

### **Case Report**

A sixty five-year-old woman, with a diagnosis of non-Hodgkin's lymphoma, was referred to surgical outpatients for consideration of splenectomy. She was suffering abdominal pain and had pancytopenia, resistant to medical and oncological treatment. Staging confirmed massive splenomegaly with little extra-splenic disease. She had been diagnosed as having non Hodgkin's lymphoma 7 years earlier and had been treated with both chemotherapy and radiotherapy. Splenectomy was performed, histology confirming a lymphomatous spleen weighing 3.17kg. Pre-operative pneumococcal, meningococcal and Haemophilus influenza vaccinations had been given, and perioperative antibiotic prophylaxis comprised ampicillin 1g intravenously, followed by oral penicillin 500mg twice daily.

Three days postoperatively, the patient developed diarrhoea and pyrexia. Urine and blood cultures showed no bacterial growth. Chest radiograph and abdominal ultrasound failed to identify a cause for her illness. Intravenous gentamicin and high dose benzyl penicillin were commenced, without clinical improvement. Three days later, stool testing confirmed the presence of *Clostridium difficile* toxin, so 125mg oral vancomycin was given four times daily, the other antibiotics being stopped. Five days later the patient was still pyrexial, and more unwell, with progressive abdominal distension both clinically and radiologically. A diagnosis of pseudomembranous colitis complicated by toxic megacolon was made and emergency colectomy

performed. The patient subsequently made an uneven postoperative recovery, and was discharged home four days after colectomy.

### **Discussion**

*Clostridium difficile* infection is increasing in incidence (1). The antibiotics frequently associated with *Clostridium difficile* infection include the cephalosporins, ampicillin, amoxycillin and clindamycin (2). The most common presentation is diarrhoea. More severe infections may present as antibiotic associated colitis and pseudomembranous colitis. Toxic megacolon is a rare complication of *Clostridium difficile* infection. In immunocompetent patients, toxic megacolon can occur as a complication of Crohn's or ulcerative colitis, or of infection by *Salmonella*, *Shigella*, *Campylobacter jejuni* and *Yersinia enterocolitica* (3). Immunocompromised patients may develop toxic megacolon without prior antibiotic usage, and in these patients the disease process seems to have a poorer prognosis, particularly in HIV infected patients (3) and patients receiving anti-neoplastic chemotherapy (4,5). Association between lymphoma and *Clostridium difficile* infection is recognised (6) but to our knowledge there have been no cases reporting an association between clostridial toxic megacolon and splenectomy for lymphoma. The patient reported was immunocompromised by her having received chemotherapy, by her lymphoma and because of the splenectomy. Furthermore, she was required to receive antibiotics as part of a post-splenectomy prophylactic regimen.

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This case describes an unusual complication of splenectomy, but we suggest that if perioperative prophylactic antibiotics are given for elective splenectomy in cancer patients, clinicians should be aware of the risk of subsequent *Clostridium difficile* infection. A broad-spectrum antibiotic seems more likely to lead to this complication. Patients undergoing total splenectomy are obviously at higher risk of postoperative attack from capsulate bacteria such as pneumococcus and long-term antibiotic prophylaxis rightly has been advised for these patients. Conversely, *Clostridium difficile* infection can follow a single dose of antibiotic. There is no evidence that prolonging prophylaxis past the day of operation decreases the postoperative wound infection rate in general surgery. Minimising the duration of antibiotic should also decrease the risk of *Clostridium difficile* infection. Our hospital's antibiotic guidelines on general surgical prophylaxis state that 1 to 3 doses of antibiotic are sufficient, starting immediately pre-operatively. Later than this is useless, longer than this is pointless.

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