Appendicitis presenting as gastroenteritis: the importance of making a correct diagnosis

It is vital to be aware of the atypical presentations of appendicitis in children. This case study demonstrates how delayed diagnosis can result in serious illness.

Appendicitis is a painful inflammation and infection of the appendix. The primary cause is obstruction of the appendiceal lumen. An important cause of abdominal pain in children, appendicitis often requires emergency surgery. It is slightly more prevalent in boys than girls and usually presents between 10 and 20 years (Acheson and Banerjee, 2010).

Classic features of appendicitis include abdominal pain localising over McBurney’s point (on the right side of the abdomen between the umbilicus and the anterior superior iliac spine), fever and loss of appetite (Acheson and Banerjee, 2010; Bristow, 2004). However, the initial presentation may be atypical or mimic a different pathological process, leading to delayed diagnosis (Cappendijk and Hazebroek, 2000). Early clinical suspicion and imaging are useful in diagnosis.

**CLINICAL PRESENTATION AND INITIAL MANAGEMENT**

An 11-year-old boy presented with a two-day history of lower abdominal pain, diarrhoea and vomiting, with associated loss of appetite. Initial observations showed a temperature of 38.5°C, pulse rate of 108bpm, saturations of 98% on air, blood pressure of 111/67mmHg and a central capillary refill time of two seconds. The abdomen was soft with some tenderness in the right iliac fossa but without guarding. The provisional diagnosis was gastroenteritis and the patient was managed conservatively; the need to exclude appendicitis was documented.

**ONGOING MANAGEMENT**

The boy’s blood inflammatory markers were raised with a white cell count of 15.8/mm³ and a C-reactive protein of 224mg/L. He continued to experience diarrhoea, opening his bowels up to 10 times on the day before surgery. Senior surgeons performed serial abdominal examinations with reassuring findings and his clinical presentation was felt to be consistent with a mild gastroenteritis despite a subsequent rise in inflammatory markers. After 72 hours he remained pyrexial, with a mild tachycardia, and began to complain of shoulder tip pain; he was unable to tolerate oral rehydration solution. A chest X-ray at that time showed an early right basal pneumonia and intravenous cefuroxime and IV fluids were started.

An ultrasound scan revealed an appendix abscess (Fig 1). A laparoscopy was done and a gangrenous perforated appendix (Fig 2) identified and removed. An abdominal drain was inserted for 24 hours and a strict input/output chart maintained. The patient was treated in a paediatric high dependency area.

**PROGRESS**

The IV cefuroxime was continued and IV metronidazole added to the regimen; a five-day course was completed. The patient later developed breathing difficulties and a chest ultrasound revealed a small left pleural effusion, which was managed conservatively. Postoperative pain relief included oral morphine. The patient was seriously ill and in hospital for 12 days. A month later, he was reported to be doing well at a clinic review and was discharged from hospital care.

**CONCLUSION**

This case illustrates the importance of being aware of the atypical presentations of appendicitis in children. A thorough history, repeated clinical examinations by a senior surgeon and imaging will help to diagnose early and to prevent significant morbidity.

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**REFERENCES**