Appendicitis in Hemodialysis Patients

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Dear Sir,

Acute appendicitis has been diagnosed in 5 patients in this hemodialysis unit over the years; in 3 of these patients the diagnosis was made difficult by the paucity and nonspecificity of clinical signs and 1 patient died. We suggest that appendicitis in hemodialysis patients can be atypical resulting in mortality and morbidity greater than in the nondialysis population.

Case 1

A 72-year-old woman on hemodialysis for renal failure due to polycystic kidney disease suffered recurrent attacks of abdominal pain and diarrhoea of uncertain cause for many years. These symptoms were thought to originate in infected renal and hepatic cysts and were accompanied on at least 2 occasions by gram-negative bacteremia. Through early 1986 she had frequent abdominal pain, vomiting and diarrhea and became increasingly depressed and debilitated. During one such attack she complained of suprapubic and right iliac fossa pain and developed tenderness in these areas but without rigidity or distension. Rectal examination was non-contributory. She was afebrile, the hemoglobin was 105 g/l (10.5 g/100 ml) and the white cell count $12.2 \times 10^9/l$ ($12,200/mm^3$). Because of the development of dilated loops of small bowel and air – fluid levels on X-ray she underwent laparotomy at which were found multiple adhesions, chronic obstructive bowel changes of wall thickening and edema and a gangrenous appendix. She improved in the early postoperative period but then became progressively weaker and hypotensive to death on the fourth day.

Case 2

A 51-year-old female on hemodialysis for renal failure due to chronic glomerulonephritis complained in April 1975 of diarrhea of 6 weeks duration which was initially thought to be due to recent antibiotic use. Twenty-four hours after a dialysis session she developed generalized abdominal pain and vomiting. She was afebrile but looked unwell and had a tachycardia. There was abdominal tenderness, maximal in the suprapubic region, and 24 h later rigidity over a vague mass in the right iliac fossa; these findings were confirmed on rectal examination. On erect abdominal X-ray there was localized dilatation of the transverse colon with a fluid level in the hepatic flexure region. The hemoglobin was 45 g/l (4.5/100 ml) and the white cell count $7.5 \times 10^9/l$ ($7,500/mm^3$; 65% neutrophils). A perforated appendix was removed at laparotomy.

Case 3

A 57-year-old woman commenced regular hemodialysis in early 1973 for end-stage renal failure due to reflux nephropathy. In October of that year she complained of 4 days generalized abdominal pain which, during 24 h of observation, was localized to the right iliac fossa and became increasingly severe. She did not have bowel disturbance, dysuria or fever. There was

tenderness over a 10 × 6-cm mass in the right iliac fossa but no guarding or rebound tenderness and rectal examination only confirmed the abdominal findings. Abdominal X-rays were normal. The hemoglobin was 71 g/l (7.1 g/100 ml) and the white cell count was $9.5 \times 10^9/l$ ($9,5000/mm^3$; 58% neutrophils). An appendiceal abscess was diagnosed and treated with antibiotics with elective surgery 6 weeks later.

In the 3 patients described here uncertainty in the clinical presentation delayed the diagnosis of appendicitis. Patient 1 at all times had minimal signs and though appendicitis was suspected, the indication for laparotomy was the radiological features of small bowel obstruction.

Patient 2 demonstrated marked suprapubic tenderness with initially only minimal tenderness over the appendix site while patient 3 had 4 days of obscure pain before diagnosis; both of these patients developed an appendix mass. At no stage was a fever documented in any of the 3 patients. Only patient 1 exhibited a leucocytosis.

Appendicitis in the hemodialysis patient may demonstrate little abdominal signs and may lack febrile and laboratory features which in concert may mask the diagnosis till a late stage.