Peritoneo-cutaneous Fistula: An unusual “complication” of continuous ambulatory peritoneal dialysis.

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Abstract: A 52 year old woman, who lost her graft due to vascular anastomotic leak, was started on continuous ambulatory peritoneal dialysis (CAPD). Seven years later, she presented with history of fever and sudden onset of leak of peritoneal fluid from a rent in abdominal wall present on the scar of renal transplantation incision. The peritoneal fluid tested positive on Ziehl-Neelsen stain (20% sulphuric acid) for acid fast bacilli. Mycobacterium tuberculosis was recovered from the BACTEC culture. Abdominal rent and hence the peritoneo cutaneous fistula was repaired along with removal of peritoneal catheter. She was treated with anti tuberculous therapy and shifted to hemodialysis. She improved with resolution of fever.

Keywords: CAPD, Peritoneo-cutaneous fistula.

A fifty two year old type 2 diabetic, hypertensive for over twenty years had undergone live related renal allograft transplantation in 1999. She was given injection methylprednisolone 1.0g/day on day 1 and day 2. She had also received azathioprine (2mg/kg/day) and cyclosporine (8mg/kg/day). On second post-operative day there was a vascular anastomotic leak. The graft nephrectomy was done immediately. She was not continued on any immunosuppression after that.

She was switched to continuous ambulatory peritoneal dialysis (CAPD). She was on three exchanges with 2.5% dextrose CAPD solution of Dianead (Baxter India Pvt Ltd, New Delhi) and had weekly Kt/V of 2.0. She had negligible urine output. She never suffered any mechanical complication. Her peritoneal equilibration test revealed her to be of low average transporter status.

She, after seven years of CAPD, presented with history of sudden onset of leak of peritoneal fluid from a site other than exit site and catheter insertion site. On examination the leak was found to be from a rent in abdominal wall present on the scar of renal transplantation incision (Fig. 1). She had low grade fever, of three weeks duration. She was being investigated for that by a physician. There was no pain abdomen, vomiting or loose stools. There was no history of cloudy peritoneal fluid. The results of investigations done were: haemoglobin: 11.1gm/dL, blood urea: 129mg/dL, creatinine: 9.5mg/dL, serum proteins: 6.5g/dL, serum albumin: 4.7g/dL. Chest radiograph: no lymphadenopathy, normal lung fields, a tuberculin skin test (TST), done with 5TU has ulcerated within 24 hours. Peritoneal fluid cell count was 10, 120 and 220 cells per μL on the three successive days. There was lymphocyte dominance. The Gram’s stain and KOH mount of the peritoneal fluid did not show any organisms. The Ziehl-Neelsen stain (20% sulphuric acid) was positive for acid fast bacilli. (20% sulphuric acid) method. At 4 weeks Mycobacterium tuberculosis was recovered from The BACTEC 9000 Blood Culture Series of instruments (Becton, Dickinson and Company, NJ USA).

She was switched to haemodialysis on day 3 of admission.
and an elective laparotomy was done. The abdominal wall rent and hence the peritoneo-cutaneous fistula was closed along with the removal of the Tenckhoff catheter. She remained on haemodialysis. Her fever had subsided and the appetite had improved within a week of initiation of isoniazid (5 mg/kg), rifampin (15 mg/kg), pyrazinamide (10 mg/kg) and ethambutol (5 mg/kg). It was postulated that the peritoneal cutaneous fistula might have formed owing to combined effect of persistent high intra abdominal pressure, infection and the scar tissue, which lacks the mechanically efficient meshwork of collagen of the unwounded dermis. A literature search revealed single case report of fistulizing tuberculous peritonitis, (1) in which peritoneal umbilical fistula was described.

References: