A 62-year-old, obese Hispanic woman with a 20-year history of insulin-dependent diabetes mellitus and a 5-year history of hypertension was transferred from another hospital in November, 1987. Since August she had been hospitalized several times with congestive heart failure, nephrotic syndrome, and progressive renal insufficiency (serum creatinine rising from 2.7 to 5.5 mg/dl). A course of oral prednisone 60 mg/day, tapered to 30 mg/day after 6 weeks, had been initiated in September.

She was found to have the usual clinical and laboratory features of long-standing diabetes mellitus complicated by nephrotic syndrome, end-stage renal failure, and massive fluid retention. Prednisone was tapered over a week and discontinued. A subclavian vein catheter was inserted for temporary hemodialysis access and a Tenckhoff catheter was inserted for maintenance of continuous ambulatory peritoneal dialysis (CAPD) access. Ten days later peritoneal dialysis was attempted, but discontinued when dialysate was seen to leak around the catheter during the first exchange. Vancomycin was infused intravenously and she was given oral cephalexin for the next 10 days, while hemodialysis was continued. Ascitic fluid cultures were negative and she developed neither signs nor symptoms of peritonitis. On the second attempt at peritoneal dialysis the dialysate was clear and there was no leakage. CAPD training proceeded uneven-fully and the patient returned home in early December.

In January 1988, she began to complain of intermittent pain around the Tenckhoff catheter site in the right lower quadrant, which seemed to be exacerbated when the dialysate was draining. The dialysis effluent was clear; cell counts and routine cultures were negative. She mainfested slight tenderness in the lower quadrants of the abdomen, but no signs of a catheter tract infection, dialysate leakage, or peritonitis. Attempts to ameliorate the pain by modifying dialysate temperature, composition, volume and the duration of siphonage were without effect.

During a routine clinic visit in February she was found to have hypotension, and an oral temperature 101.4. There was diffuse abdominal pain which was worse in the lower quadrants and rebound tenderness. The dialysate was cloudy which had not been appreciated at home. The white blood cell count was 12,000/mm³ with 26 lymphs, 72 polys, 6 bands, 2 eosin-ophiles, and 2 monocytes. The cell count on the uncon-centrated dialysate was 5,000 RBC/mm³ and 4,600 WBC/mm³ with 68% polys, 2% bands, 37% lymphs, and 7 unidentified mononuclear cells. Gram stain was negative for bacteria. She was given vancomycin 1.0 g intravenously and cephalothin 1.0 g plus tobramycin 1.7 mg/kg intraperitoneally in the first 2-liter exchange, then maintenance intraperitoneal cephalothin 500 mg and tobramycin 16 mg per 2-liter exchange. Routine cultures for aerobic and anaerobic bacteriae and fungi were negative. A week later her condition was unimproved and the dialysate was still turbid. Cell count of the effluent still indicated infection, although Gram stain, acid fast stain, immunofluorescent stain for acid fast
bacilli, potassium hydroxide preparation for fungi, and cytology were negative. Dialysate was submitted for culture for mycobacteria and fungi as well as bacteriae. Skin tests were negative for tuberculosis, Candida, trichophyton, and mumps. CT scan of the abdomen was unrevealing, as was a barium enema.
What is your diagnosis?
What further diagnostic tests are indicated?
How would you change the therapeutic regimen?
The answers to the questions appear on p. 513 of this issue.