Dialysis as Treatment of End-Stage Renal Disease

**FIGURE 7-8 (see Color Plate)**
Peritonitis. In continuous ambulatory peritoneal dialysis (CAPD) peritonitis can easily be recognized by the fact that drained peritoneal fluid becomes opacified. The inability to read the writing on the opposite side of the drained bag (or a newspaper through the bag) correlates with a peritoneal leukocyte count of more than 100 cells per microliter.

**FIGURE 7-9 (see Color Plate)**
Tunnel abscess in patient undergoing continuous ambulatory peritoneal dialysis. Pericatheter infections are a common source of peritonitis. Sometimes, the findings are more subtle than in this case. Prompt treatment with antibiotics is indicated. If the infection fails to respond, removal of the catheter is indicated.

**FIGURE 7-10**
Sclerosing encapsulating peritonitis. This patient had several bouts of peritonitis during the course of her treatment on peritoneal dialysis. She developed partial small bowel obstruction. Abdominal computed tomography revealed a homogeneous mass filling the anterior peritoneum. At laparotomy the mesentery was encased in a "marble-like" fibrotic mass. The patient required long-term home parenteral hyperalimentation for recovery. (From Pusateri and coworkers [3]; with permission.)
Complications of Renal Failure

**FIGURE 7-11**
Pericardial tamponade. Narrow pulse pressure and a pericardial friction rub suggest pericarditis (a frequent complication of uremia) especially in patients with chest pain. Pericardial tamponade may present as dialysis-induced hypotension. (Courtesy of T. Pappas, M.D., Medical College of Ohio.)

**FIGURE 7-12** (see Color Plate)
Perforating folliculitis. The skin of uremic patients can be intensely pruritic. Earlier, it was attributed to deposition of calcium and phosphorus in the skin. Today, we know that is the result of repeated trauma to the skin associated with scratching.

**FIGURE 7-13**
Acquired cystic disease of the kidney. Abdominal computed tomography demonstrates cystic disease in this patient, who had focal segmental glomerulosclerosis complicated by protein C deficiency and renal vein thrombosis. Eleven years after the initial diagnosis, he developed renal failure requiring hemodialysis. Two years after starting dialysis, he developed hematuria, and these cysts were found. The appearance and clinical course are consistent with acquired cystic disease of the kidney. These cysts carry some risk of malignant transformation.
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**FIGURE 7-14**
Malnutrition is an important risk factor for dialysis patients, as reflected in this graph depicting the relation of death to serum albumin values. Albumin may have antioxidant properties. Low concentrations of serum albumin may favor oxidation of lipids, which renders them more atherogenic. (Data from Owens and coworkers [4].)

**Radiologic Manifestations of Renal Osteodystrophy**

**FIGURE 7-15**
Radiograph of a shoulder involved by osteoporosis. The shoulder joint demonstrates diffuse osteoporosis. There is distal resorption of the clavicle. A small amount of calcification can be seen on the clavicular side of the coracoclavicular ligament. These findings are suggestive of osteitis fibrosa cystica.

**FIGURE 7-16**
Diffuse bone demineralization as demonstrated in skull radiograph. This radiograph demonstrates the generalized granular appearance that is characteristic of the diffuse demineralization seen in renal osteodystrophy.
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FIGURE 7-17
Radiograph of the hands of a patient who has renal osteodystrophy. The hands demonstrate diffuse bilateral osteoporosis. The resorption of the distal phalanges is best seen in the first and second digits of the right hand. The radial side of the middle phalanges of the second and third digits bilaterally demonstrates subperiosteal bone resorption. Soft tissue calcification is present on the radial side of the proximal interphalangeal joint of the second digit of the left hand.

FIGURE 7-18
Parathyroid scan. The patient was injected with 24.6 mCi of 99mTc Cardiolite. Hyperfunction of four parathyroid glands is seen. This technique is often useful to determine the location and number of parathyroid glands before performing subtotal parathyroidectomy. At operation, diffuse hyperplasia of four parathyroid glands was found. (From Ishibashi and coworkers [5].)

References