Urinary Tract Aspergillosis in a Renal Transplant Recipient

Aspergillosis occurs as a complication of transplantation in ~4% of renal transplant recipients and presents as disseminated disease or pulmonary infection [1]. Isolated aspergillosis of the genitourinary tract is uncommon [1–3]. We describe a case of isolated genitourinary aspergillosis in a renal transplant recipient.

A 62-year-old man presented for evaluation of a 6-month history of urinary frequency and dysuria. Repeated urinalyses revealed pyuria and hematuria, but urine cultures were negative for bacteria. His symptoms were unresponsive to antibiotic therapy. Six months previously he had received a cadaveric renal transplant and he was maintained on tacrolimus, mycophenolate mofetil, and prednisone. After the procedure he developed steroid-induced glucose intolerance. Four months before his admission to the hospital, results of a prostate examination and renal ultrasonography were reported as normal. The patient denied systemic symptoms. Because of persistent urinary symptoms he underwent cystoscopy, and this revealed cavitiation within the left lobe of the prostate. Evaluation of a prostate biopsy specimen demonstrated hyphae consistent with Aspergillus species, and the patient was admitted to the hospital for antifungal therapy.

The patient was afebrile and findings on a physical examination were unremarkable. Laboratory evaluation revealed the following values: WBCs, 2.9 x 10³/L with 84% neutrophils; glucose, 264 mg/dL; and serum creatinine, 1.9 mg/dL. Findings on chest radiographs and a CT scan of the pelvis were within normal limits. Therapy with amphotericin was initiated. Despite 2 weeks of amphotericin therapy, a repeated cystoscopy revealed extension of the prostatic abscess, and ultrasonography now revealed an ill-defined hypodense lesion in the lower pole of the transplanted kidney. Evaluation of a needle aspirate of the renal lesion demonstrated characteristic hyphae. The patient underwent surgical drainage of the abscess and allograft removal. After receiving amphotericin, 3 g, and being maintained on itraconazole, there has been no recurrent aspergillus infection.

Urinary tract aspergillosis usually presents as either renal or prostatic parenchymal disease or as an obstructing fungus ball [1, 4]. Usually, the renal parenchymal disease is a component of a disseminated infection [1, 2, 5]. Occasionally, urinary tract aspergillosis may be a pan-urothelial infection that ascends from the bladder or prostate and extends to the renal pelvis or parenchyma [4]. We believe our patient presented with subacute prostatic aspergillosis that ascended to infect the renal allograft. His presentation is unique in that aspergillosis originating in the prostate is uncommon and that isolated urinary tract aspergillosis appears to be rare in renal allograft recipients [1, 3, 5]. In these patients, aspergillosis usually presented with involvement of the lungs or CNS and was often related to the use of higher doses of prednisone, recent cytomegalovirus infection, or recent treatment for graft rejection.

Prostatic aspergillosis has been reported in four additional patients [6–9]. Predisposing factors have included prolonged use of antibiotics, chronic steroid use, and diabetes. Most patients presented subacutely with urinary frequency, dysuria, and recurrent urinary tract infections. The diagnosis was often delayed and confused with that of chronic bacterial prostatitis or prostatic hyperplasia.

Management of urinary tract aspergillosis usually requires combined medical and surgical interventions. All of the patients who reported with isolated prostatic aspergillosis underwent either transurethral prostate resection or open prostatectomy, but only one received amphotericin; this suggests that infection limited to the prostate might be surgically cured. Denning and Stevens [2] reported that of 17 patients with renal aspergillosis that was responsive to treatment, 5 were treated with antifungal therapy alone, whereas 12 of 17 responders received either surgical treatment only or surgical treatment with antifungal therapy [2]. There is not a sufficient number of reported cases to compare amphotericin with itraconazole. For either isolated prostatic or renal aspergillosis the prognosis appears favorable. In contrast, the prognosis for renal transplant recipients with disseminated aspergillosis is poor, with a reported mortality of 68% [1].

Urinary tract aspergillosis should be considered in patients at risk who present with dysuria and persistent sterile pyuria. Combined medical and surgical therapy is recommended.

References