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Images in Infectious Diseases

Cryptococcosis in a transplanted kidney allograft

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A 32-year-old man with chronic kidney disease secondary to obstructive nephropathy was referred for deceased donor renal transplant, with 9 hours of cold ischemia. The donor was a 53-year-old man who died due to acute ischemic stroke and had a creatinine level of 1.1mg/dL, was cytomegalovirus IgG^+ and IgM^+, had 5 mismatches, and negative serology for other infections. The recipient was given thymoglobulin, and immunosuppression was maintained using tacrolimus, prednisone, and everolimus. Initially, the patient exhibited delayed graft function and was treated with methylprednisolone from 11th to 13th day, because of suspected cellular acute rejection. On the 20th day, a graft biopsy (**Figure 1**) revealed acute tubular necrosis and *Cryptococcus sp.* infection. On the 27th day, his creatinine levels increased because of amphotericin B nephrotoxicity; therefore, amphotericin B was replaced with fluconazole. However, the kidney function worsened, accompanied by severe anemia and increased levels of lactate dehydrogenase. Thus, tacrolimus was interrupted under suspicion of hemolytic uremic syndrome. Another biopsy examination revealed results similar to the first biopsy, without signs of thrombotic microangiopathy. The patient developed fever and pneumonia. Amphotericin B and cefepime were reinitiated for >3 weeks. After clinical improvement, azathioprine was initiated and the patient's renal function recovered. Currently, the patient is taking prednisone, sirolimus, and azathioprine. Creatinine stabilized at around 1.2mg/dL. Moreover, the patient took fluconazole for 6 months. The other kidney recipient likewise presented with cryptococcosis. Both transplant recipients were diagnosed up to 1 month after the transplant. Thus, the infection was acquired from the donor who probably died due to neurocryptococcosis/systemic infection. Viral infectious diseases transmitted from donors are not uncommon[1]. Many diagnostic methods, including serological tests and polymerase chain reaction allow identification of several viral infectious diseases. Fungus, mycobacterium, and some protozoans do not have these same acessebles resources for screening in transplants, although are frequent reported on literature[2,3]. Cryptococcosis infection acquired from transplant was infrequent. This is the first description of a successfully treated cryptococcosis infection acquired from a donor.

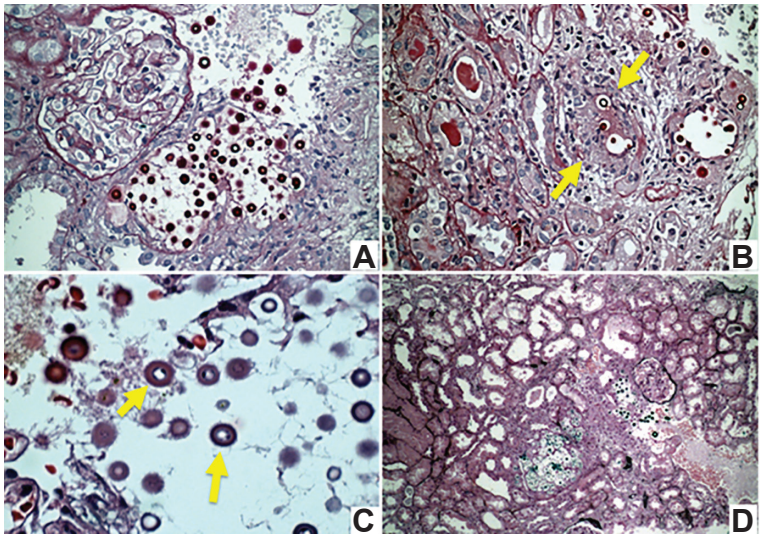

FIGURE 1 - Renal allograft biopsy. **A.** Multiple structures of grouped yeasts with Periodic acid-Schiff (PAS) staining, besides the glomeruli (PAS 400x). **B.** Tubule-interstitial granulomatous inflammatory infiltrate (see arrows) involving yeast structures with single budding *dewdrop-like* (PAS 400X). **C.** Detail of: Celled yeast prominent capsule composed mostly of polysaccharides (HE 1,000X). **D.** Moderate inflammatory infiltrate tubule-interstitial involving yeast structures (see arrows) of the renal tissue in focal areas in renal parenchyma (Jones Stain 200x).

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Conflicts of interest
The authors declare that there is no conflict of interest.

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