Disseminated Cryptococcosis Presenting with a Pleural Effusion in a Kidney Transplant Recipient: Early Diagnosis by Pleural Biopsy and Successful Treatment with Oral Fluconazole

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Dear Sir,

Disseminated cryptococcosis is a well-recognised opportunistic infection in transplant recipients. We report the first case of a renal transplant recipient with disseminated cryptococcosis presenting with an asymptomatic pleural effusion, diagnosed early by a closed pleural biopsy.

A 59-year-old woman who had a cadaveric kidney transplant presented with right chest pain after a fall at home. Her posttransplant course was complicated by two episodes of rejection which required treatment with high-dose steroids and OKT3. Her baseline immunosuppression consisted of prednisolone 10 mg/day, azathioprine 5.0 mg/day and cyclosporine A 4 mg/kg/day. Physical examination revealed a temperature of 38.5 °C. There were bruises over her right lower chest and findings consistent with a right pleural effusion. Her chest X-ray showed a right pleural effusion. A right thoracocentesis and a closed core pleural biopsy was performed. The pleural fluid was serous with an LDH of 368 U/l, protein of 28 g/l and glucose of 4.8 mmol/l. No fungal organisms were seen. Pleural biopsy revealed granulomatous inflammation of the pleura and infiltration with encapsulated yeast forms, compatible with *Cryptococcus neoformans*. Culture of the pleural fluid and sputum were negative.

In view of the impaired renal function, amphotericin B was avoided and she was treated with fluconazole 400 mg orally on the first day followed by 200 mg/day. Immunosuppression was unchanged. Three days later, she complained of headaches and had developed tender, erythematous nodular lesions on her right leg. Computerized tomographic scanning of the brain was normal. A lumbar puncture and biopsy of the nodules were performed. Serum and CSF cryptococcal antigen titer were positive at titers of 1:256 which subsequently yielded *C. neoformans*. It was sensitive to amphotericin B and fluconazole. Biopsy of the nodules demonstrated cryptococcosis confirming the diagnosis of disseminated infection. Fluconazole therapy was continued for 6 months. At the end of treatment, her pleural effusion had resolved, blood and CSF cultures and cryptococcal antigen titers were negative. Her serum creatinine was stable at 216 µmol/l.

C. neoformans is a ubiquitous mucicarmineophilic yeast which usually infects immunosuppressed patients. Recently, cases of disseminated cryptococcosis involving the central nervous system, skin and chest have been reported in transplant recipients [1, 2]. Chest X-ray findings in cryptococcal disease are diverse and include nodular lesions, interstitial or alveolar infiltrates, a miliary pattern or even normal [3]. Pleural involvement is unusual and disseminated cryptococcosis presenting with an asymptomatic pleural effusion has not been reported in a transplant recipient.

Disseminated cryptococcosis is usually diagnosed based on cultures from CSF and blood.

Pleural cryptococcosis is usually diag-

nosed by culture of the pleural fluid, bronchoalveolar washings or extrapulmonary means. In our patient, rapid diagnosis was made by a closed pleural biopsy before clinical evidence of dissemination occurred and culture and serology results were available. This prevented a delay in diagnosis and treatment which will be detrimental to the patient. Although amphotericin B is the treatment of choice, it is associated with a high risk of nephrotoxicity especially in renal transplant patients with an elevated serum creatinine [4]. Oral fluconazole was convenient for outpatient use and effective in eradication of the infection in our patient.

References

Schroter GPJ, Temple DR, Husberg BS, et al: Cryptococcosis after renal transplantation. *Surgery* 1976;79:268-277.

Watson AJ, Russell RP, Cabreja RF, et al: Cure of cryptococcal infection during continued immunosuppressive therapy. *Quart J Med* 1985;217:169-172.

Wasser L, Talavera W. Pulmonary cryptococcosis in AIDS. *Chest* 1987;92:692-695.

Conti DJ, Tolkskoft-Rubin NE, Baker GP, et al: Successful treatment of invasive fungal infection with fluconazole in organ transplant recipients. *Transplantation* 1989;48:692-695.

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