



PANCYTOPENIA IN A PATIENT WITH *CRYPTOCOCCUS* MENINGITIS

To the Editor: *Cryptococcus* is a well-recognised opportunistic infection in immunocompromised patients and typically presents as a meningitis.¹ Occasionally it may disseminate to involve other organs, including the lungs, liver, bone marrow or eye. Although the disease is well described in developed countries,² there is little documentation of this disease in Africa.^{3,4} We report on an HIV-positive patient with recurrent severe pancytopenia who was found to have disseminated cryptococcosis involving the bone marrow.

A 29-year-old HIV-positive woman with a CD4 count of 31 cells/ μ l was referred to Sizwe Tropical Disease Hospital with a 4-month history of headache, loss of weight and fatigue. She was alert and orientated. Her temperature was 38.3°C, and she had terminal neck stiffness. The cerebrospinal fluid contained 4 neutrophils/ μ l and 24 lymphocytes/ μ l. The opening pressure exceeded 300 mm of fluid. The India ink stain was negative, but culture yielded a moderate growth of *Cryptococcus neoformans*. The latex test for *Cryptococcus* was positive at 1:128. She had pancytopenia with a haemoglobin concentration (Hb) of 6.5 g/dl, a white cell count (WCC) of $2.0 \times 10^9/l$ and a platelet count of $65 \times 10^9/l$. Serum vitamin B₁₂ and folate levels were normal, but the ferritin level was markedly raised.

A bone marrow aspirate and trephine biopsy specimen were obtained to investigate the anaemia. The aspirate showed megaloblastoid changes and reactive features. A fungal yeast was seen on the trephine specimen, confirming a disseminated cryptococcal infection.

The patient was started on fluconazole 400 mg daily and received a transfusion of 2 units of blood. Her condition improved and she was discharged on a maintenance dose of fluconazole (200 mg daily).

Two weeks after discharge the patient returned complaining of persistent fatigue and shortness of breath. She had no neck stiffness or fever and was alert. However, she was found to be severely anaemic with an Hb of 3.4 g/dl and a WCC of $2.6 \times 10^9/l$. She was again given a blood transfusion and the Hb increased to 8.1 g/dl. Despite maintenance fluconazole the headache and neck stiffness recurred. A repeat lumbar puncture revealed *Cryptococcus*. Treatment with amphotericin B was initiated despite the possibility that it might aggravate the anaemia. However, her condition deteriorated and she died 3 weeks later.

Disseminated cryptococcal infection is known to occur more frequently in HIV-infected patients⁵ and the most common extrameningeal site is the lungs. The bone marrow may also be involved, but this is documented in less than 10% of cases,⁶ and there are only a few reports of an associated anaemia.⁶⁻⁸

Although a number of causes for the pancytopenia were sought in this patient, including nutritional deficiencies, drugs and infections, none were found other than HIV and *Cryptococcus*. They may well have acted in synergy to cause her severe refractory pancytopenia.

The presence of anaemia complicates management of these patients. Treatment is often not efficacious, and response may vary from mortality rates of 64%³ to clinical cure rates of 63%.⁴ Relapse is common if the patient does not receive maintenance therapy.⁹ Where there is disseminated infection the outcome would be expected to be worse. More information is needed on the management of patients with bone marrow involvement.

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1. Powderly WG. Cryptococcal meningitis and AIDS. *Clin Infect Dis* 1993; **17**: 837-842.
2. Van der Horst CM, Saag MS, Cloud GA, et al. Treatment of cryptococcal meningitis associated with the acquired immunodeficiency syndrome. *N Engl J Med* 1997; **337**: 15-21.
3. Moosa MYS, Coovadia YM. Cryptococcal meningitis in Durban, South Africa: A comparison of clinical features, laboratory findings, and outcome for HIV positive and HIV negative patients. *Clin Infect Dis* 1997; **24**: 131-134.
4. Laroche R, Dupont B, Touze JE, et al. Cryptococcus meningitis associated with AIDS in African patients: treatment with fluconazole. *J Med Vet Mycol* 1992; **30**: 71-78.
5. White MH, Armstrong D. Cryptococcosis. *Infect Dis Clin North Am* 1994; **8**: 383-399.
6. Wong KF, Ma SK, Chang JK et al. Acquired immunodeficiency syndrome presenting as marrow cryptococcosis. *Am J Hematol* 1993; **42**: 392-394.
7. Gandhi SA, McMeeking AA, Friedberg D, Holzman RS. Cryptococcal choroiditis in a patient with AIDS: case report and review. *Clin Infect Dis* 1996; **23**: 1193-1194.
8. Kovaks JA, Kovaks AA, Polis M, et al. Cryptococcus in the acquired immunodeficiency syndrome. *Ann Intern Med* 1985; **103**: 533-538.
9. Powderly WG. Recent advances in management of cryptococcal meningitis in patients with AIDS. *Clin Infect Dis* 1996; **22**: suppl 2, S119-S123.

FISHTANK WATER AS A SOURCE OF A RARE CASE OF *AEROMONAS HYDROPHILA* SEPTICAEMIA

To the Editor: A 30-year-old patient known to be in renal failure was admitted to a private hospital with Gram-negative septicaemia and shock. She had a history of hypertension, weighed 120 kg and was immunocompromised with recurrent episodes of septicaemia. A permanent catheter had previously been inserted owing to failure of all vascular ports; the exit wound was red and tender but non-suppurative. Besides medical treatment, which included haemodialysis, she received intravenous piperacillin/tazobactam (2.25 g 8-hourly) and amikacin according to trough levels. The septicaemia responded to treatment, but 5 days after admission she had episodes of general tonic-clonic convulsions followed by cardiac arrest. Extensive cardiopulmonary resuscitation and treatment failed and she died.

A set of blood cultures drawn on admission grew Gram-negative rods (Bactec 940). Identification with an automated