Fatal Phycomycosis in a Hemodialyzed Patient Receiving Deferoxamine

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Dear Sir,

We wish to report a case of fatal phycomycosis in a hemodialyzed patient receiving deferoxamine (DFO) and to raise again the question of a possible relationship between DFO treatment and fungal infections, which was recently addressed by Zoller et al. [1].

The patient, a 28-year-old female with Alport's syndrome who was on chronic intermittent hemodialysis since 1978, started DFO treatment (2.0 g/week) in April 1986 because of aluminum-related bone disease. She has had also refractory anemia for which she had received multiple blood transfusions (> 100). Serum iron was above 220 g/dl, and bone marrow aspirate contained increased iron stores. The patient was doing well on DFO treatment, and during the ensuing months she noticed a remarkable improvement in bone pains as well as in the gait. In September 1986, while on DFO, she noticed a serious nasal discharge which was attributed to 'cold'. Three days later she presented with severe excruciating pain in the left heel where a small tender erythematous skin – vasculitis-like – lesion appeared. There was no fever, and the leukocyte count was $6 \times 10^3/\text{mm}^3$. Bone and soft tissue X-rays revealed no abnormality. The next day the patient showed similar painful skin lesions in the right foot as well as in the fingers of both hands, and she also complained of severe pain over her fistula. Low-grade fever was present at that time. Blood cultures were taken and broad-spectrum antibiotics (vancomycin plus tobramycin) were started with the presumable diagnosis of septicemia. The patient's course was dramatic. During the next 3 days skin lesions became necrotic, the fistula thrombosed, and the patient showed hypotension, hyp-oxemia (normal chest X-rays), and confusion. Finally, the patient showed brain death and died 6 days after hospitalization.

Fig. 1, 2. Nonseptate hyphae within and around skin blood vessels.

Necropsy was not permitted. Liver biopsy obtained at the time of death revealed secondary hemochromatosis, while skin lesion biopsy revealed nonseptate hyphae within and around skin vessels (fig. 1, 2), a feature characteristic of phycomycotic infection dissemination.

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Recently Zoller et al. [1] reported 2 cases of fatal phycomycosis in 2 hemodialyzed patients, with aluminum-related osteomalacia and secondary hemochroma-tosis while receiving DFO.

Although 1 of these has had splenectomy, and both had received broad-spectrum antibiotics before the appearance of the fungal infection, Zoller et al. [1] state their awareness of 6 more similar unreported patients and addressed the question of a possible relationship between DFO treatment and fungal infections. Since our case reinforces the assumption of Zoller et al. [1], we would be interested to learn whether readers of Nephron have had a similar experience.

Reference

1 Zoller, K.A.; Calescibetta, C.C.; Erlbaum, A.I.; Coburn, J.W.: Fatal disseminated phycomycosis (mucormycosis) in patients on deferoxamine for aluminum toxicity (Abstract