Aspergillus Peritonitis Complicating Continuous Ambulatory Peritoneal Dialysis

M.	Miguel	Pérez-Fontán ^a
A.	Ana	Rodríguez-Carmona ^b
C.	Constantino	Fernández-Rivera ^a
J.	Javier	Moncalián-León ^a

Nephrology Services, ^aHospital Juan Canalejo, La Coruña ^bHospital General de Segovia, Spain

Dr. M. Pérez-Fontán, Servicio de Nefrología, Hospital Juan Canalejo, Xubias de Arriba 84, E-15006 A Coruña (Spain)

Dear Sir,

Fungal peritonitis represents one of the most feared complications of continuous ambulatory peritoneal dialysis (CAPD), given its significant mortality, and the frequent impossibility for continuation of peritoneal dialysis in survivors [1]. Most of these infections are caused by different yeasts of the species *Candida* [1,2], but the list of fungi causing peritonitis in CAPD is continuously expanding [1]. Filamentous fungi of the species *Aspergillus* are a rare cause of peritonitis in CAPD, seemingly producing particularly severe infections, with a high mortality rate [3–5]. We report on a case of *Aspergillus* peritonitis complicating CAPD, with a rapid favorable course once the peritoneal catheter was removed, even in the absence of effective antifungal therapy. The patient could reas-sume CAPD 2 months later, with a well-preserved peritoneal function and no evidence of relapse to date.

Case Report

A 69-year-old white male, with severe coronary heart disease and nephroangiosclerosis-related chronic renal failure, was started on CAPD in September 1987. During the following 2 years, his clinical course was complicated by severe relapsing angina pectoris, which markedly limited his physical activity, leading to inadequate rehabilitation and progressive obesity. The patient presented no episode of peritonitis or catheter exit-site or tunnel infection during this period. On December 4, 1989, the patient experienced the sudden onset of fever, diffuse abdominal pain and, subsequently, cloudy dialysate effluent. He was evaluated on an ambulatory basis the same day. The most relevant findings on physical examination were: stable hemodynamic situation, febricula (37.5 °C), diffuse abdominal tenderness, and a noninflamed catheter exit-site. The dial-

ysis effluent was cloudy, containing 1,940 cells/mm³ (43% polymorphonuclear leukocytes, 32% histiocytes, 14% lymphocytes and 11% eosinophils). Dialysate samples were obtained for microbiological study, and therapy with intraperitoneal ciprofloxacin (50 mg/l dialysate) was begun. Abdominal pain, febricula and cloudy dialysate persisted, and the patient was admitted on the 4th day of evolution. The next day, fungal growth on a dialysate sample was detected; ciprofloxacin was discontinued, and intraperitoneal amphotericin (2 mg/l dialysate) and oral ketoconazole (200 mg b.i.d.) were begun. Subsequently, four samples of dialysate (days 1–5) grew *Aspergillus* sp. On the 10th day, and due to lack of response to antifungal therapy, the

peritoneal catheter was removed; ketoconazol was discontinued, and intravenous amphotericin was begun, but had to be stopped 3 days later, due to severe intolerance to a dose as low as 10 mg infused over 6 h.

Once the catheter was removed, febricula disappeared, and rapid clinical improvement was noted. No further antifungal therapy was administered. An arteriovenous fistula was performed, and the patient was transferred to hemodialysis treatment.

During the following 2 months, severe intolerance to hemodialysis was evident, with marked hemodynamic instability and repeated crises of angor during the dialysis sessions. On February 8, 1990, a Tenckhoff catheter was inserted under direct vision of the peritoneal cavity, where no adhesions were evident. CAPD was begun a week later; a slight increase in peritoneal permeability, when compared with the pre-peritonitis status, was the only anomaly detected. Two months later, there was no evidence of relapse of the infection.

Comments

In recent years, at least two instances of favorable resolution of *Aspergillus* peritonitis in peritoneal dialysis patients have been reported [6,7]; in one of them, peritoneal dialysis was successfully reassumed after healing of the infection [7]. In both cases, the peritoneal catheter was removed, and intravenous amphotericin was maintained to a total dose of 30 mg/kg body weight. Our patient

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experienced a rapid improvement once the peritoneal catheter was removed; in fact, the infection seems to have

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been responsive to this measure, as amphotericin was administered briefly and at a very low dose (total dose i.p and i.v.: 0.7 mg/kg body weight) and ketoconazol is scarcely active against *Aspergillus* [S]. The successful rein-stitution of CAPD after 2 months on hemodialysis remarks the favorable course of the infection.

In conclusion *Aspergillus* peritonitis seems to inscribe into the general clinical spectrum of fungal peritonitis in 6 CAPD. Mortality is high, but a favorable course can be obtained, even with later reassumption of CAPD. However, we wish to emphasize that no instance of resolution of the infection without catheter removal has been reported to date. In addition, and in spite of

our own 8 experience, we consider systemic antifungal therapy indicated, given the potentially lethal course of the infection.

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