

INTRAPERITONEAL AMIKACIN FOR TREATMENT OF TUBERCULOSIS PERITONITIS IN ADDITION TO ORAL DRUGS IN CAPD PATIENTS A REPORT ON TWO CASES.

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Introduction

Peritoneal tuberculosis has emerged as an important form of tuberculosis in patients undergoing continuous ambulatory peritoneal dialysis (CAPD) (1,4 - 10). This occurs with much higher frequency within the first 12 months after initiating dialysis¹. Mycobacterium tuberculosis has been found to be responsible for 1.6% of peritonitis in the adult patients on chronic peritoneal dialysis⁽²⁾. A study by Hung Y has shown that the clinical signs and symptoms are non-specific for tuberculous peritonitis, the smear of ascitic fluid for mycobacterium was not reliable and the culture took a long time. Prognosis seems to be poor as mortality has been reported to be very high in the previous reports (1,3). Intra peritoneal administration of amikacin as a treatment modality for tuberculous peritonitis has not been reported so far. We report two cases where intra-peritoneal amikacin was administered in addition to oral antituberculous drugs and a good improvement was observed.

Keywords

CAPD, tuberculous peritonitis, intraperitoneal amikacin.

Case report

A 46 year old male, diabetic, for 10 years and who had renal failure due to anti GBM disease was initiated on CAPD. Two months following the initiation, he presented with typical features of peritonitis. He was found to have neutrophil predominant peritoneal fluid. The culture and gram stain was negative. The patient showed good response to a two week course of amikacin, cefazolin, heparin which was given intraperitoneally. The repeat cell count was 10 cells / hpf.

A month later, he had recurrence of peritonitis. The fluid cell count was 100 cells/hpf, with lymphocytic predominance. Acid Fast Bacilli were demonstrated by ZN stain and culture was positive for M tuberculosis. Anti tuberculous therapy was initiated (INH, rifampicin, ethambutol) along with amikacin. The dosage of amikacin was 50 mg per two litres bag one week and subsequently 25 mg per two litres bag. The CAPD cell count at the end of a week's therapy was 5 cells, with significant improvement in the abdominal pain.

The second patient is a 36 years old lady, was initiated on CAPD, ten years after transplantation, due to chronic allograft nephropathy. She had peritonitis by the third week. The fluid was neutrophil predominant, and the gram stain and culture were negative. She was treated with intra peritoneal amikacin, cefazolin and heparin. At the end of two weeks the pain had subsided and the fluid was clear. A week later, there was recurrence of turbid fluid stain and culture were negative. The same antibiotic protocol was continued for 2 weeks more with a demonstrable improvement in symptoms and fluid cell count. Seven months following this, the patient had peritonitis again. The fluid was lymphocyte predominant. Culture and gram stain did not yield anything positive. Antibiotics (amikacin and ceftazidime) along with heparin, was used intra peritoneally for 2 weeks. She had good improvement. However 2 month later when she was re-evaluated for pain and reappearance of turbid fluid, acid bacilli was shown on smear and grown in culture. The chest radiograph revealed right upper zone pneumonia. She received anti-tuberculous therapy (INH, ethambutol, isoniazid, pyridoxin) and amikacin. At the end of three months, she had shown significant symptomatic improvement, though some abdominal pain still persisted., She had no side effects due to amikacin.

Discussion

Tuberculous peritonitis has been reported in CAPD patients within a year after initiation of dialysis (1,4 - 10). Clinical presentation of tuberculous peritonitis is not different from bacterial peritonitis. Frequent episodes of culture negative peritonitis may occur before the diagnosis of tuberculous peritonitis is finally made. This is because of the difficulty in diagnosing tuberculous peritonitis 2,3,11. Smear for AFB can be negative and the culture takes six weeks. High degree of clinical suspicion is required to make the diagnosis of tuberculous peritonitis. Peritoneal biopsy may also be additionally required (1,3,4).

These two patients on CAPD had tuberculous peritonitis as confirmed by smear and culture for AFB. First one developed tuberculous peritonitis within two months. The other developed tuberculous peritonitis nine months after initiation of CAPD, and also had pulmonary tuberculosis.

With oral anti tuberculous treatment the out come is often poor (1,3). Simon J. Quantril et al reported three of the eight cases went in for permanent hemodialysis and three expired. Hung Y-M et al reported four death of the six patients with tuberculous peritonitis.

We tried the use of intraperitoneal amikacin, which is an antituberculous drug alongwith oral antituberculous drug with fairly good outcome at the end of three months. Further studies are required to decide the use of intraperitoneal amikacin, the duration, dosage and toxicity.

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