

- None of the many antimicrobial regimens suggested is proven superior to another. The intraperitoneal route of administration is preferred for most drugs, as this will deliver higher concentrations of the antibiotic locally. However, significant systemic absorption of most drugs occurs. Gram stain and culture of the dialysate are essential.

- Vancomycin is not generally recommended for empirical therapy because of concerns with the development of vancomycin-resistant enterococci. Although many coagulase-negative staphylococci test resistant to cephalosporins in the laboratory, outcomes of clinical treatment with cephalothin or cephazolin are usually satisfactory.

- If Gram-positive organisms are seen in the dialysate, use:
cephalothin 15 mg/kg added to 1 bag per day (intermittent)
or cephalothin 500 mg/L as a loading dose in the initial bag, then 125 mg/L (continuous with each bag exchange)
OR
cephazolin 15 mg/kg added to 1 bag per day (intermittent)
or cephalothin 500 mg/L as a loading dose in the initial bag, then 125 mg/L (continuous with each bag exchange).

- If the patient is colonised with MRSA or there is evidence of systemic sepsis, instead of cephalothin or cephalazolin, use:
vancomycin 2 g (child: 50 mg/kg up to 2 g) intraperitoneally, as a single dose and repeat after 7 days
or vancomycin 25 mg/L added to each bag of dialysate.

- If gram-negative organisms are seen in the dialysate, use:
gentamicin 4 to 8 mg/L added to each bag of dialysate to a maximum of 40 mg/day,
or gentamicin 50 mg intraperitoneally, as a single daily dose.

- If the Gram stain is not helpful, use gentamicin plus cephalothin or cephazolin (see above for dosages).

- Gentamicin should be avoided in nonanuric patients; ceftazidime would be a suitable alternative.

- If diverticular disease or bowel involvement is suspected, add: metronidazole 400 mg orally or 500 mg IV, 12-hourly.

- Modify initial antibiotic choices, if necessary, after culture results are available. Therapy should be continued for 10 to 21 days, except for gentamicin (or other aminoglycosides) which should not be used for more than 7 days unless no alternative drug is available, as there is significant absorption from the peritoneum.

treatment

CAPD peritonitis

general

- Peritonitis is the major complication of continuous ambulatory peritoneal dialysis.

- Organisms may gain access to the peritoneal cavity around the catheter site through subcutaneous tunnel infection or via the catheter following contamination during bag exchange.

causative organisms

- Gram-positive skin organisms, particularly beta-lactam resistant coagulase-negative staphylococci (eg *Staphylococcus epidermidis*), are the most common pathogens.

- The enteric Gram-negative bacilli are less frequently found.

- Infection with fungi is uncommon but difficult to eradicate with antimicrobial therapy, and early catheter removal is usually required.

- Mixed bacterial infection, especially if anaerobes are present, suggest bowel involvement (eg diverticular disease or a perforated viscus).