

Characteristics of infecting pathogens and their antimicrobial susceptibilities in peritoneal dialysis related peritonitis: report of related episodes in a medical center over ten years

LI Tong, HE Yong-cheng, WAN Qi-jun, LUAN Shao-dong, XU Hui-li.

Department of Nephrology, Shenzhen Second People's Hospital, Shenzhen 518036, Guangdong Province, China

Objectives: To investigate the characteristics of infecting pathogens, their changes and antimicrobial susceptibilities on CAPD related peritonitis in our peritoneal dialysis center in the past ten years.

Methods: CAPD related peritonitis episodes in 100 patients from 2003 to 2012 were analyzed and compared with 100 episodes from 2003 to 2007. The causative pathogens, their antimicrobial susceptibilities and outcomes on CAPD related peritonitis from the two periods were retrospectively reviewed and compared.

Results: Culture negative rate decreased from 30% in 2003 to 10% in the last five years ($P=0.001$). Among culture positive peritonitis episodes, the incidence of gram positive bacteria peritonitis increased from 60% to 80% ($P=0.001$). This was mainly due to a significant increase in coagulase negative-staphylococcus peritonitis, which significantly increased from 20% to 40% ($P=0.001$). Gram negative bacteria peritonitis decreased slightly (10% vs 5%, $P=0.05$). The incidence of *Lebseilla pneumoniae* peritonitis significantly decreased (10% vs 20%, $P=0.001$), while *seudomonas aeruginosa* and *scherichia coli* peritonitis rates slightly increased (5% vs 10%, $P=0.05$; 5% vs 10%, $P=0.05$). The decrease of fungal peritonitis rate was not significant (5% vs 10%, $P=0.05$). The comparison of clinical outcomes showed an improvement of total recovery rate from 60% in 2003 to 70% for 2008-2012 ($P=0.001$). The catheter removal rate decreased from 20% to 10% ($P=0.001$), and the mortality from 10% to 5% ($P=0.001$). In both periods, fungal peritonitis had the poorest results, which all the patients either withdrew from peritoneal dialysis or died.

Conclusions: Compared with that in 2003s, the culture positive rate for CAPD related peritonitis in 2008-2012 has been greatly improved. Coagulase-negative staphylococcus is the most common causative pathogen. The mortality and catheter removal rate have been markedly reduced in the last five years. Fungal peritonitis is the most important reason for patients' dropout.

References:

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