

Abstract No. : A126

Theme : PD in Pediatric Patients

Antibiotic Treatment of Peritonitis in Children: A Report of the International Pediatric Peritonitis Registry (IPPR)

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Peritonitis (P) is the primary factor compromising long-term peritoneal dialysis (PD) therapy and the optimal therapy of P remains uncertain. Following the publication of Consensus Treatment (tx) Guidelines in 2000, in which empiric therapy was stratified by disease severity to a 3rd generation cephalosporin for all patients plus a 1st generation cephalosporin for low-risk and a glycopeptide for high-risk patients, the web-based IPPR was established to evaluate the safety and efficacy of the guidelines following their implementation in 43 pediatric centers from 14 countries. A total of 491 evaluable episodes of peritonitis were entered into the registry from 11/2001-12/2004. Conformance to empiric tx guidelines occurred with 61% of episodes and varied by geographic region. Staphylococcal organisms were the most frequent cultured, and culture negative peritonitis represented from 0-65% of episodes by center. In vitro evaluation revealed 71% and 81% organism sensitivity to the low and high risk tx, respectively, in each case inferior to the results with aminoglycosides or ciprofloxacin. Resistance to empiric tx was associated with an odds ratio (OR) for poor Day 3 response of 3.24 (p=0.01) with low risk tx and 3.8 (p=0.01) with high risk tx. The OR for poor early response was 4.6 (p=0.0002) for intermittent vs. continuous empiric tx. Subsequent guideline recommended modification of therapy occurred in 83% of cases. Overall, 92% of cases achieved remission, a portion following relapsing peritonitis (8%) and catheter exchange (6%).. Incomplete final recovery was predicted by a poor Day 3 response. Neither the Day 3 response (p=0.38) nor the final outcome (p=0.13) differed for patients treated with either the high risk or low risk antibiotic regimen. These data serve as the basis for new evidence based guidelines. Modification of empiric therapy recommendations to include aminoglycosides should be considered.