

Peritoneal dialysis-related peritonitis: challenges and solutions

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Abstract

Peritoneal dialysis is an effective treatment modality for patients with end-stage renal disease. The relative use of peritoneal dialysis versus hemodialysis varies widely by country. Data from a 2004 survey reports the percentage of patients with end-stage renal disease treated with peritoneal dialysis to be 5%–10% in economically developed regions like the US and Western Europe to as much as 75% in Mexico. This disparity is probably related to the availability and access to hemodialysis, or in some cases patient preference for peritoneal over hemodialysis. Peritoneal dialysis-related peritonitis remains the major complication and primary challenge to the long-term success of peritoneal dialysis. Fifty years ago, with the advent of the Tenckhoff catheter, patients averaged six episodes of peritonitis per year on peritoneal dialysis. In 2016, the International Society for Peritoneal Dialysis proposed a benchmark of 0.5 episodes of peritonitis per year or one episode every 2 years. Despite the marked reduction in peritonitis over time, peritonitis for the individual patient is problematic. The mortality for an episode of peritonitis is 5% and is a cofactor for mortality in another 16% of affected patients. Prevention of peritonitis and prompt and appropriate management of peritonitis is essential for the longterm success of peritoneal dialysis in all patients. In this review, challenges and solutions are addressed regarding the pathogenesis, clinical features, diagnosis, treatment, and prevention of peritoneal dialysis-related peritonitis from the viewpoint of an infectious disease physician.

Keywords: peritoneal dialysis, related peritonitis