

Commentary

Compendium on peritoneal dialysis

David Ridinger*

Department of Nephrology, Medical University of Heidelberg, Heidelberg, Germany.

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DESCRIPTION

The peritoneal in a person's abdomen acts as the membrane through which fluid and dissolved particles are exchanged with the blood in Peritoneal Dialysis (PD). In patients with renal impairment, it is used to remove excess fluid, rectify electrolyte imbalances, and eliminate pollutants. During the first several years, peritoneal dialysis had a better result than hemodialysis. Infections in the belly, hernias, excessive blood sugar, abdominal haemorrhage, and catheter obstruction are all possible complications. It is not recommended for those who have had major abdominal surgery or who have inflammatory bowel disease. It necessitates a certain level of technological expertise.

Peritoneal dialysis involves incorporating a particular solution through a permanent catheter in the lower abdomen and subsequently removing it. Continuous Ambulatory Peritoneal Dialysis (CAPD) occurs at regular intervals during the day, whereas Automated Peritoneal Dialysis (APD) occurs at night with the help of a machine. Sodium chloride, hydrogen carbonate, and an osmotic agent such as glucose are typically used throughout the solution.

PD is less productive than hemodialysis at removing wastes from the body, and the presence of the tube raises the risk of peritonitis by introducing germs into the abdomen. There is insufficient evidence to conclude the best treatment for PD-associated peritonitis, though direct infusion of antibiotics into the peritoneum appears to offer a slight advantage over intravenous administration; other commonly used treatments, such as routine peritoneal lavage or the use of urokinase, offer

no clear advantage. Hypotension (caused by excessive fluid exchange and salt removal), low back discomfort, and hernia are some of the other problems. Patients with cardiac instability may benefit from PD because it does not cause large based on body fluids, while patients with insulin-dependent diabetic mellitus may benefit from the inability to maintain blood sugar levels through the catheter.

A catheter is transplanted with one end in the abdomen and the other protruding from the skin in preparation for surgery. The catheter must be cleansed and the flow into and out of the abdomen must be checked before each infusion. Over the following ten to fifteen minutes, 2-3 litres of dialysis fluid is infused into the abdomen. A dwell is the entire volume, and dialysate is the fluid itself. The dwell remains in the abdomen, and waste materials from the underlying blood arteries spread over the peritoneum. The fluid is withdrawn and replaced with new fluid after a varied amount of time depending on the therapy (typically 4–6 hours). This can be done automatically while the patient awakens or continuously during the day by maintaining two litres of fluid in the abdomen at all times and exchanging the fluids four to six times per day.

Although there are several different shapes and sizes of catheters that can be used, as well as different insertion sites, the number of cuffs in the catheter, and immobilisation, there is no evidence to show any benefits in terms of morbidity, mortality, or the number of infections, though the quality of data is not yet sufficient to draw firm conclusions. By evaluating the features of the peritoneal membrane mass transport characteristics, a peritoneal equilibration test may be used to determine a person's suitability for peritoneal dialysis.

*Corresponding author. David Ridinger, E-mail: davidridinger34@edu