



## Continuous Ambulatory Peritoneal Dialysis in a Patient with Colostomy

### Abstract

Patient with colostomy undergoing peritoneal dialysis (PD) are considered to be at an increased risk of peritonitis. We report a 65-year-old patient with colostomy who was successfully initiated on PD and continues to be in good health.

**Keywords:** Colostomy, CAPD, Dialysis, Peritoneal

### Introduction

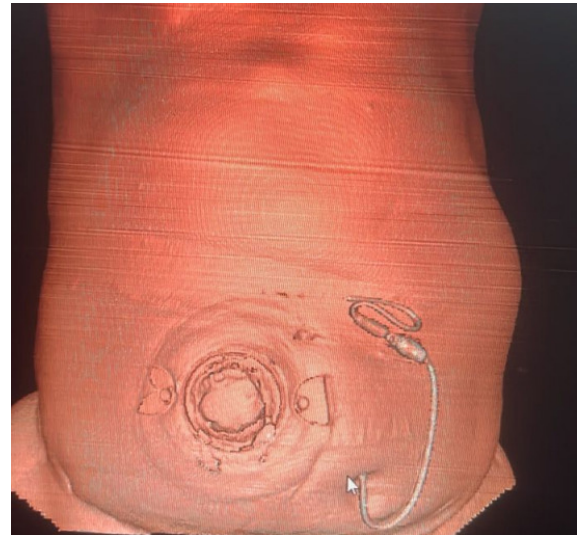
Peritoneal dialysis (PD) in the presence of a stoma is perceived as relative contraindication due to the risk of cross-contamination, subsequent infections, and peritonitis.<sup>1-3</sup> The Kidney Disease Outcome Quality Initiative guideline on PD recognized the risk but recommended that the decision be individualized. Indeed, there are some reports illustrating the successful use of this approach.<sup>2,4</sup> We report a patient who successfully underwent PD despite a preexisting colostomy, with a focus on the issue of cross-contamination, to tackle any barriers perceived by nephrologists.

### Case Report

A 65-year-old male farmer with long-standing hypertension, type 2 diabetes, dyslipidemia, and chronic kidney disease suffered a perineal injury in a road traffic accident and needed a diversion colostomy on the left side of his abdomen, which was switched to the right side of the abdomen 3 years later due to a paraumbilical hernia. Over time, he developed kidney failure. An arteriovenous fistula was created on the left distal forearm but failed following severe arterial stenosis. He was initiated on continuous ambulatory peritoneal dialysis after discussion with the family. The PD catheter was placed 2 cm left of the umbilical site [Figure 1]. Laparoscopic visualization of the peritoneal cavity revealed no adhesions. The catheter was a swan neck Tenckhoff, two-cuff, left-sided, and ~43 cm long [Figure 2]. A break-in type of PD was performed alongside regular HD through an internal jugular venous catheter. Family members were trained in the exchange technique during these two weeks. The peritoneal equilibrium test revealed a low average transport rate. His weekly creatinine clearance was 60.93 L, with a renal clearance of 34.3 L. Kt/V being 1.3, and he was prescribed three exchanges per day with an eight hours dwell time and 2 L dwell volume. The patient is being followed up regularly and has been doing well for 3 years with 9.3gm/dL hemoglobin, 2.86 g/dL albumin having good quality of life.

### Discussion

There have been a handful of case reports and studies discussing this topic, highlighting the unpopularity of the procedure.<sup>2,4</sup> HD, whilst preferred for kidney



**Figure 1:** Surface rendered view showing colostomy in the midline and peritoneal dialysis catheter entry in left paraumbilical region.



**Figure 2:** Axial image showing colostomy in the midline, unattenuated structure showing peritoneal dialysis catheter.

replacement therapy in patients with an ostomy, was not ideal considering the patient's lifestyle as a farmer, their location, and the presence of arterial stenosis. PD was deemed the most suitable and appropriate.

There are no specific guidelines about PD in patients with a stoma. The International Society for Peritoneal Dialysis has suggested advanced laparoscopic techniques to insert catheters in PD<sup>5</sup> patients with adhesions due to abdominal surgeries. Such techniques allow for direct visualization and management of adhesions. They also recommend using extended catheters and ensuring distant placement of the exit site from the stoma.<sup>5</sup> This reduces the likelihood of cross-contamination and infections.

Despite these recommendations, renal physicians appear hesitant to perform PDs. A recent survey exploring renal physicians' preconceived barriers to PD found that only 26% were most comfortable doing PD in patients with colostomies as opposed to 74% who preferred nephrostomies.<sup>6</sup> The notion of cross-contamination and infection still lingers in renal physicians, but it is important to note that there is growing evidence reporting the insignificance of this issue.<sup>2,4,6</sup>

We report successful initiation of PD in a patient with a colostomy. Our PD regime has proven safe and reliable, opening the door for future lifestyle-centered KRTs in India and elsewhere. We also show that PD can be performed in patients following major abdominal surgery requiring drainage.

**Declaration of patient consent:** The authors certify that they have obtained all appropriate patient consent.

**Conflicts of interest:** There are no conflicts of interest.

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