Rare Complication in Tenchkoff Catheter Insertion: Placement in the Bladder

Tenchkoff Kateter Takılmasında Nadir Komplikasyon: Mesane İçine Yerleştirme

ABSTRACT

Mechanical and technical complications associated with a peritoneal dialysis catheter are seen frequently but inserting the catheter into the bladder is a rare complication. The Tenchkoff catheter was inserted into the bladder accidentally in a 64-year-old male patient and this complication was understood by the beginning of peritoneal dialysis (PD). This is the first case reported in the national literature. It is presented to highlight the importance of this complication that may be asymptomatic until the initiation of PD treatment.

KEY WORDS: Peritoneal dialysis, Mechanical complication, Bladder rupture

ÖZ

Periton diyalizi (PD) için kullanılan Tenchkoff kateter ilişkili teknik ve mekanik komplikasyonlar sıklıkla gözlenmektedir. Mesane içine kateterin yerleştirilmesi ise çok nadir bir komplikasyondur. Altmış dört yaşında erkek hastaya Tenchkoff kateter konulduktan sonra tedavi başlangıcında yanlışlıkla mesaneye yerleştirildiği tespit edilmiştir. Yazı ulusal literatürde ilk kez tanımlanan olgumuzda olduğu gibi, PD tedavisi başlangıcına kadar asemptomatik olabilecek bu komplikasyonun önemini vurgulamak için takdim edilmiştir.

ANAHTAR SÖZCÜKLER: Periton diyalizi, Mekanik komplikasyon, Mesane rüptürü

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INTRODUCTION

Peritoneal dialysis (PD) is one of the renal replacement therapy modalities (1). Technical and mechanical complications associated with a peritoneal catheter can be observed (2,3). Placing the catheter in the bladder is a very rare complication and it is reported only in 15 patients in the literature (2, 4-6). This is the first case reported from Turkey.

CASE REPORT

Peritoneal catheter insertion was planned for a 64-year-old male patient with renal failure due to diabetic nephropathy. Prior to placing the Tenckhoff catheter by a standard percutaneous procedure, the peritoneal cavity was filled with 2000 cc dialysate. The patient was told to urinate before the procedure. The catheter was placed by a small midline incision under the umbilicus by local anesthesia. Once the catheter was inserted, isotonic fluid was given easily and drainage was normal. After two weeks, 500 ml of dialysate could be easily given and drained through the catheter. In the next follow-up, dialysate volume was increased and the patient had abdominal discomfort and urgency and the drainage volume was decreased. In direct abdominal radiographs, the catheter was in the pelvic cavity (Figure 1A). In the abdominal computerized tomography scan, there was a hematoma on the right side of the bladder and the catheter was in the bladder (Figure 1B). A urinary catheter was inserted and the catheter was found to be placed in the urinary bladder on diagnostic laparotomy (Figure 2). By a skin incision, the catheter was removed from the bladder and placed in the pelvic cavity.

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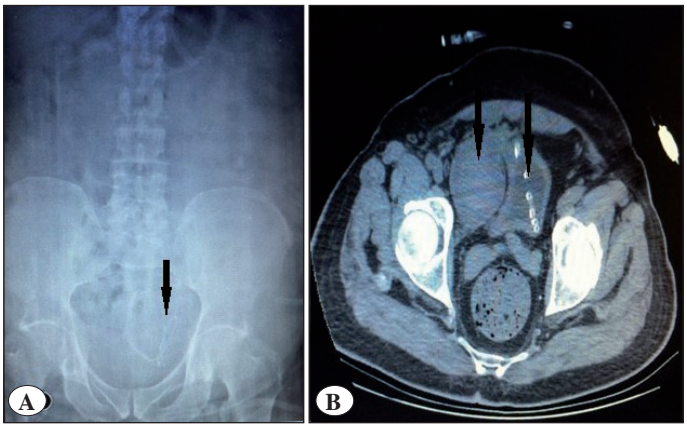

Figure 1: A) *Catheter in the pelvic cavity is shown by the arrow in direct abdominal radiographs,* ***B)*** *Catheter in the bladder and hematoma on the right side of the bladder shown by arrows in abdominal computed tomography.*

Fifteen days later, the urinary catheter was removed and PD treatment was started on the twentieth day.

DISCUSSION

The percutaneous method (blind) is frequently used by nephrologists for peritoneal catheter insertion. The advantage of this procedure is the lower cost, shorter hospitalization but the disadvantage is the inability to visualize the peritoneal cavity (7). This situation is associated with mechanical complications like malposition, dysfunction and intra-abdominal organ injuries (2,3). In our case, the catheter was inserted in the bladder but the patient had no symptom until the initiation of the treatment.

A history of abdominal surgery, causing intra-abdominal adhesions, and the presence of neurogenic bladder is a risk factor for organ perforation. Dialysate infusion into the peritoneal cavity before catheter insertion reduces the incidence of this complication (2). Neurogenic bladder is frequently observed in patients with long-standing diabetes. The risk of accidentally puncturing the bladder is increased in this patient group. One third of these patients without an operation history had diabetes mellitus. The underlying pathology may be neurogenic bladder secondary to diabetes mellitus (5,8-10).

In conclusion, routine urinary catheterization is not recommended before Tenchkoff catheter insertion but the bladder should be empty as outlined in the clinical practice guidelines for PD access (11). This complication may be asymptomatic until the beginning of PD so urinary catheterization before the procedure in patients with a risk of neurogenic uropathy will reduce the accidental bladder injury risk.

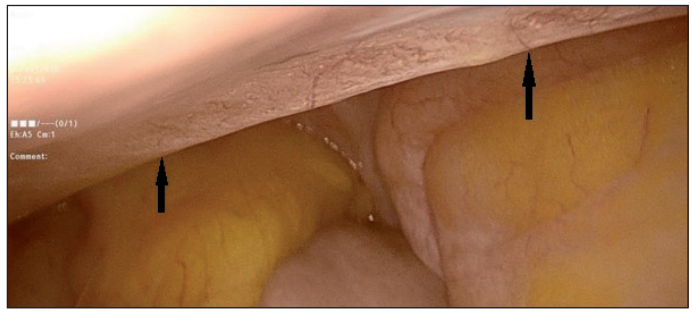

Figure 2: *The preperitoneal course of a catheter through the pelvic cavity shown by arrows in laparoscopic evaluation.*

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