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CORRESPONDENCE

Accidental Placement of a Peritoneal Dialysis Catheter in the Retzius Space: Two Case Reports

KEY WORDS: Mis-insertion; peritoneal catheter; Retzius space.

Editor:

During the 2000s, the popularity of the modified Seldinger technique for placement of the peritoneal dialysis (PD) catheter has increased because of advantages such as accessibility, cost-effectiveness, and short hospitalization time (1). However, percutaneous and blind application of this technique can cause accidental insertion of the catheter to an extraperitoneal site (1,2). Here, we report, for the first time, 2 cases of mis-insertion of the PD catheter into the Retzius space.

CASE 1

A 55-year-old overweight man (body mass index: 29) with end-stage renal disease of unknown origin, underwent implantation by the modified Seldinger procedure of a Tenckhoff double-cuff curled catheter for PD. Outflow failure was observed in the operating room after insertion.

Two direct radiographic evaluations of the abdomen showed that the catheter tip was in the appropriate position. An ultrasonographic evaluation was conducted, but it was inadequate for making the diagnosis. Abdominal computed tomography was performed after contrast media was instilled through the PD catheter into the cavity. The tip of the catheter and the contrast medium were detected in the Retzius space (Figure 1).

CASE 2

In a 75-year-old obese woman (body mass index: 33) with rheumatoid arthritis, hypertension, and analgesic-induced end-stage renal disease, the same PD catheter and placement technique were used. Outflow failure was observed in operating room, just as it had been with the other patient. Abdominal computed tomography revealed that the catheter tip and contrast medium were in the Retzius space.

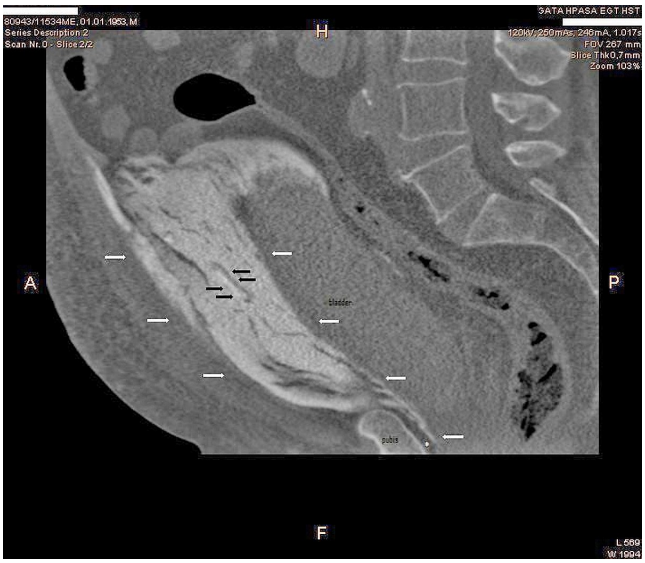

Figure 1 — Contrast media and Tenckhoff catheter (black arrows) in the Retzius space. The white arrows show the bounds of the Retzius space, and the asterisk marks the deepest part.

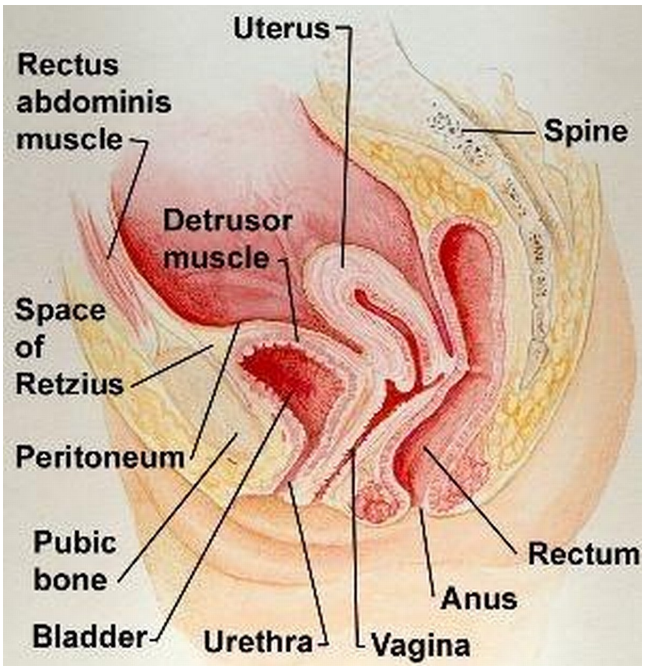

Figure 2 — Schematic of the Retzius space.

DISCUSSION

In the modified Seldinger technique, mechanical and technique-related factors are usually associated with early complications such as bleeding; bowel perforation; inadvertent insertion of the PD catheter into gut, bladder, and anterior abdominal tissue; and infection (2–4). In the cases reported here, the mis-insertion site was an extraperitoneal area called the Retzius space (Figure 2), which contains loose adipose and connective tissues with the Santorini venous plexus. It lies between the bladder, with its fascia, and the pubis and the anterior abdominal wall (5,6).

We observed outflow of the intraperitoneal dialysate throughout the peel-away sheath before implantation of PD catheter. But on checking the patency of the PD catheter after the operation, outflow failure without inflow problem was observed in both patients. In our opinion, the risk factors for this complication may be a thick anterior abdominal wall, an overfilled abdomen, and inadequate length of the sheath.

If outflow failure is observed in the operating room, nephrologists should consider this complication after a blind procedure such as the modified Seldinger technique. To prevent this complication from developing, laparoscopic insertion may be more appropriate in patients with a thick anterior abdominal wall.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

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