Case Report

Laparoscopic Repair for Recurrent Bilateral Inguinal Bladder Hernia following Bilateral Transabdominal Preperitoneal Repair

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Introduction. Although a recurrent inguinal hernia is sometimes observed as a supravesical hernia, it is extremely rare to encounter a bilateral bladder sliding hernia recurrence. In this report, we describe an extremely rare case of a recurrent bilateral supravesical bladder hernia after bilateral transabdominal preperitoneal repair (B-TAPP). Case Presentation. A 69-year-old man visited our hospital with complaints of bilateral groin swelling and frequent voiding after B-TAPP. A plain CT revealed that the urinary bladder was herniating into the bilateral supravesical hernias. He underwent laparoscopic bilateral supravesical bladder hernia repair using a bladder takedown approach and median TAPP. Discussion. In Japan, the current mainstream method of hernioplasty is TAPP. However, an immature surgical technique and inadequate mesh placement may increase the risk of recurrent hernias. We successfully repaired this patient’s recurrent bilateral supravesical bladder hernias laparoscopically. Conclusion. This rare condition (recurrent bilateral supravesical bladder hernias after B-TAPP) was successfully treated by using the bladder takedown approach and median TAPP. During surgical training and later in clinical practice, surgeons should master a surgical technique for this procedure in order to reduce recurrent hernias.

1. Introduction

It is well known that a recurrent inguinal hernia is sometimes observed as a supravesical hernia due to defective fixing of the mesh. However, it is extremely rare that a bladder sliding hernia occurs as a recurrent inguinal hernia [1] or bilateral recurrence. This paper describes our extremely rare experience using laparoscopic repair for the recurrence of a bilateral inguinal bladder hernia following bilateral transabdominal preperitoneal repair.

2. Case Presentation

A 69-year-old man who suffered from pain and swelling in the bilateral groin and from frequent voiding visited our clinic. He had undergone bilateral transabdominal preperitoneal repair (B-TAPP) three years earlier at another hospital. During his physical examination, bilateral inguinal swelling was observed before urination, and he complained about micturition when we tried to reintroduce the hernia contents. A CT scan revealed that his urinary bladder was herniating into the bilateral inguinal hernias with a typical “Mickey Mouse” shape (Figures 1(a) and 1(b)). From these findings, we diagnosed a recurrent bilateral bladder hernia after B-TAPP. Then, we preoperatively planned to employ the bladder takedown approach to pull the urinary bladder from the orifice and to perform median TAPP.

With the patient in the supine position under general anesthesia, we inserted three trocars as shown in Figure 2. Trocar placements were on the cranial side of the umbilicus compared to usual TAPP. At first, we confirmed that the lateral side of the mesh was appropriately covered by the prior mesh and that there were no recurrent indirect hernias. Then, we incised the peritoneum on the ventral side of the urinary bladder and took down the bladder to expose the hernia orifices (Figure 3(a)). Both hernia orifices were located...
inside of both medial umbilical folds; therefore, we intraop-eratively diagnosed a recurrent bilateral supravesical blad-der hernia with no lateral recurrences (Figure 3(b)). We
introduced a laparoscopic self-fixating mesh (ProGrip™,
Medtronic Inc., Minneapolis, MN, USA) into the peritoneal
cavity and unrolled the mesh as both hernia ori-faces were
covered. The mesh was fixed with Cooper’s ligament and
the rectus sheath by a mesh fixation device (AbsorbaTack™,
Medtronic Inc., Minneapolis, MN, USA) to keep it from
slipping (Figure 3(c)). Finally, we sutured the urinary blad-der
with the ventral peritoneum to close the preperitoneal
space and to screen the mesh using a barbed suture device
(V-Loc™, Medtronic Inc., Minneapolis, MN, USA)
(Figure 3(d)). The operative time was 132 minutes, and
the total blood loss was 2 mL. We included only median
mesh repair for bilateral recurrent inguinal hernias as the
name of the median TAPP procedure.

The patient was discharged on postoperative day 3
without any complications, and his preoperative symptoms
disappeared. A postoperative CT showed no recurrence of
the bilateral supravesical bladder hernias (Figure 4).

3. Discussion

The incidence of the urinary bladder within sliding hernias
is 5.6–12.5% and less than 1% among all hernias [1, 2].
Patients with a bladder sliding inguinal hernia often pre-sent
with obstructive urinary symptoms such as scrotal
swelling, urination, incomplete voiding, hydronephrosis,
and acute renal failure [3]. In our case, frequent voiding
was the main symptom due to bladder herniation. To
the best of our knowledge, some case reports about unilat-er-al
and bilateral bladder hernias were found [4, 5]; how-
ever, this is the first case report concerning a recurrent
bilateral inguinal bladder hernia following B-TAPP and
repaired by median TAPP.

Laparoscopic repairs for inguinal hernias, such as
TAPP and totally extraperitoneal repair (TEP), have
become mainstream in the surgical profession. However,
unskilled TAPP and TEP may increase the recurrence rate
compared to an open approach [6]. In addition, recurrent
inguinal hernias sometimes present complicated patterns,
such as what we experienced. In principle, the anterior
approach is recommended for recurrent inguinal hernias
owing to the difficulty of laparoscopic procedures and high
recurrence rates [7]. At first, although we planned to per-form
mesh plug repair via the anterior approach, we chan-ged to
laparoscopic repair using a bladder takedown
approach and median TAPP because we were worried that
bilateral mesh plugs might penetrate the urinary bladder
owing to the compartmental formation of the preperi-to-neal
space after B-TAPP [8]. For these reasons, we chose
the challenging median TAPP procedure.

A bladder takedown approach is usually used in laparo-scopic suprapubic incisional hernia repair and is called the
transabdominal partial extraperitoneal technique [9]. Since
no lateral recurrences were observed in this case, both supravesical hernia orifices were essentially equivalent to suprapubic incisional hernias; therefore, we employed this technique. However, laparoscopic self-fixating mesh differs from meshes used in ventral hernia repair in that antiadhesive material is not coated on the side of the abdominal cavity because a mesh has to be screened by peritoneal closure so as not to have contact with abdominal organs.

4. Conclusion
A sliding hernia that includes the urinary bladder is a rare occurrence, comprising less than 1% of all hernia cases [1, 2]; moreover, a recurrent, bilateral, and supravesical bladder hernia is an extremely rare case. The bladder takedown approach was appropriate for exposing the hernia orifices, and median TAPP was a reasonable and effective procedure for this patient. During surgical training and later in clinical practice, surgeons should master a surgical technique for this procedure in order to reduce recurrent hernias [6].

Conflicts of Interest
The authors have no conflicts of interest to disclose.

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