A RARE CASE OF BLADDER INJURY IN AN UNEXPECTED LOCATION DURING LAPAROSCOPIC OVARIAN ENDOMETRIOSIS SURGERY

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ABSTRACT
We report a rare case of bladder injury in an unusual location taken place during adhesiolysis for laparoscopic endometriosis surgery. Cautious approach during adhesiolysis on the anterior peritoneum is warranted for upper bladder displacement particularly in endometriosis cases.

Key Words: Bladder, Laparoscopy, Endometriosis

INTRODUCTION
The most common type of urinary injury during laparoscopy is bladder injury and most injuries occur during laparoscopy for benign conditions (1). Previous surgeries including cesarean sections, endometriosis, pelvic infections and adhesions are proposed risk factors. In laparoscopic hysterectomies most of the bladder injuries occurred on the posterior wall whereas in other laparoscopic operations the dome of the bladder was under risk (2). Of these injuries, 33% were sharp dissections, 21% were blunt, 30% were via laser and 15% by scissors (3). The risk of bladder injury is increased when normal anatomy is corrupted or when intensive adhesiolysis is performed to have adequate surgical exposure.

Herein we report, a rare case of bladder injury in an unexpected location during adhesiolysis for laparoscopic endometriosis surgery.

CASE PRESENTATION
A 25 years old nulliparous woman who had two tubal adhesiolysis operations first with laparoscopy and the latter with laparotomy presented with a chief complaint of left pelvic pain and she was diagnosed with a left ovarian endometrioma of 4 cm in size and a CA 125 level of 88 U/ml. She was scheduled for a laparoscopic ovarian endometrioma excision. After necessary preparations and emptying the bladder in the litotomy position pneumoperitoneum was provided through a veress needle. A 10-mm trocar was inserted through the umbilicus for camera and a 10-mm trocar on the right side and a 5-mm trocar on the left side were inserted through the low quadrant into the abdomen. During the surgery it was noticed that the two different segments of colon was attached to the left adnexa (figure 1) and the left adnexa was attached to the anterior peritoneum (figure 2). Severe adhesions were released with blunt and sharp dissection and using bipolar cautery (figure 3) to restore the normal anatomy. While releasing the left adnexa from the anterior peritoneum with sharp dissection approximately a 2 cm defect was noticed on the peritoneum (figure 4 and 5). After a careful examination it was understood that the opened space was bladder (figure 6) despite the level of the defect was at the upper edge of the low left quadrant. The defect was diagnosed to be at the doom of the bladder remote from the ureteral orifices. Two layer water-tight closure was performed.

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Laparoscopy for benign conditions carries the risk of bladder complications. Adhesions due to endometriosis and previous operations increased the risk of anatomical distortion and in certain cases bladder displacement. Gynecologist should be cautious when performing adhesiolysis on the anterior peritoneum for the risk of bladder injury. Careful examination, timely diagnoses and performing necessary surgical repair with close follow-up is of paramount importance to prevent possible co-morbidities in such cases.

with 2/0 vicryl separately using intracorporeal knots (figure 7 and 8). The bladder filled retrogradely with 300 cc saline and no leakage was detected. After left ovarian endometrioma excision, tubal patency was checked with chromopertubation using methylene blue test and both tubal passages were found to be normal and the operation was ended. A foley catheter was placed to the bladder for 14 days and then removed. She was given dienogest 2 mg (visanne) daily for 9 months and then switched to a combined oral contraceptive pill for further endometriosis suppression until she plans a pregnancy. During one-year of follow-up she did not experience any pelvic pain related to endometriosis or she had no urinary complaint due to bladder injury and her pelvic examinations and ultrasound scans were within normal limits.

**DISCUSSION**

Laparoscopy for benign conditions carries the risk of bladder complications. Adhesions due to endometriosis and previous operations increased the risk of anatomical distortion and in certain cases bladder displacement. Gynecologist should be cautious when performing adhesiolysis on the anterior peritoneum for the risk of bladder injury. Careful examination, timely diagnoses and performing necessary surgical repair with close follow-up is of paramount importance to prevent possible co-morbidities in such cases.
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**TAKE HOME MESSAGE**

1. Cautious approach during adhesiolysis on the anterior peritoneum is warranted for possible risk of upper bladder displacement particularly in endometriosis cases.

2. Timely diagnoses of bladder injury and performing necessary surgical repair during laparoscopy are of paramount importance to prevent future co-morbidities like fistulas.

3. Gynecologists should be encouraged for laparoscopic two layer water-tight closure of the bladder in such cases.

**REFERENCES**

