

# Occult bladder lesion following caesarean section – a case report

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## ABSTRACT

Iatrogenic urinary bladder lesions are rare but potentially serious complications after caesarean sections. According to NICE guidelines the incidence is approximately 0.009 per cent in elective primary caesarean sections, and the majority is diagnosed during the operation. Undiagnosed lesions may persist years after the initial laceration. This case report describes a 43-year-old woman with recurring urinary tract infections and abdominal pain after a caesarean section 2.5 years earlier. Referral to a second opinion prompted explorative surgery which revealed a bladder lesion covered by peritoneum with recurring perforation, uroplania and uroperitonitis. The patient was successfully treated with resection of the affected tissue and suturing of the bladder.

**Keywords:** Caesarean section; Bladder lesions; Iatrogenic complications

**Received:** 20. February 2024

**Accepted:** 29. May 2024

**Date of publication:** 13. June 2024

**DOI:** <https://doi.org/10.56182/1nr7hk42>

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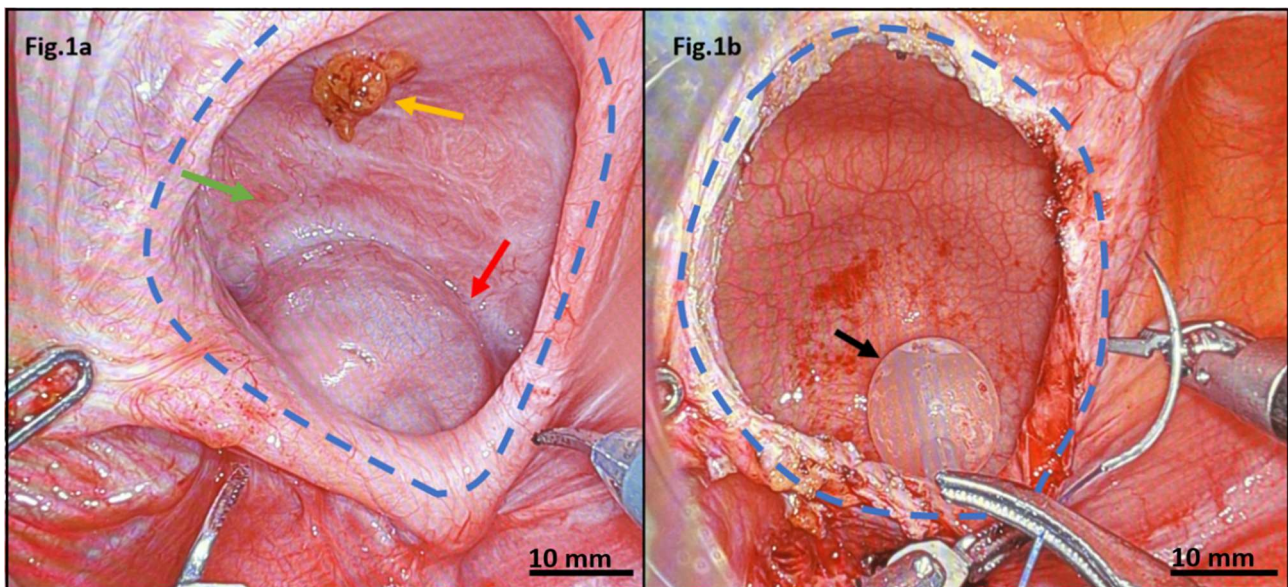
## CASE REPORT

A healthy 43-year-old woman underwent an elective caesarean section. She had two previous elective caesarean sections because of primiparous twin pregnancy. The perioperative course was uncomplicated despite adhesions in the pelvis and postoperative gross haematuria. Abdominal CT scan with contrast did not identify the cause of haematuria, and the patient was discharged in good health with a urinary catheter planned for removal at her general practitioner 14 days later.

Due to recurrent urinary tract infections, abdominal pain, and severe constipation the patient was referred to the hospital more than ten times during the first 24 months after the caesarean section. When her bladder was full or when she exerted abdominal pressure she would experience pain described similar to labour contractions. Additionally, she experienced a stabbing abdominal pain when stretching her body. During episodes of pain she often had simultaneous urinary retention. In most cases a urinary catheter was placed with significant pain relief. Multiple ultrasound and CT scans with contrast including CT urography were prescribed by the Departments of Obstetrics

and Gynaecology and General Surgery. CT scans showed a thin distension of the bladder wall and small to moderate amounts of fluid in the true pelvis. Due to persisting symptoms a diagnostic laparoscopy was performed at the Department of General Surgery 11 months after the caesarean section. The diagnostic laparoscopy displayed free fluid in the abdomen and pus in the true pelvis but no other pathology. The origin of the pus was unknown and a culture was negative. An MRI scan 12 months after the caesarean section raised suspicion of perforation of the bladder with uroplania and peritonitis. The patient was referred to the Department of Urology the following day. A cystography could not confirm the diagnosis, and a cystoscopy showed a normal bladder, except for a large diverticulum. Subsequently, endometriosis was considered a possible cause of the symptoms. Therefore, the patient was discharged from the Department of Urology and returned to the Department of Obstetrics and Gynaecology for further treatment.

The patient was tired and mentally worn out and had difficulties managing everyday life as a stay-at-home mom. After 2.5 years she was referred to



**Figure 1a:** The blue dashed line circumvents the central lesion and marks the edge of the urinary bladder wall. The lesion is covered by thin, pellucid, and scarred peritoneum (upper part; green arrow) and fibrous opaque peritoneum covering the balloon of the catheter (lower part; red arrow). The yellow arrow marks the omentum that was removed from the lid created by the scarred peritoneum.

**Figure 1b:** The peritoneal lid has been resected and the normal mucosa of the bladder is exposed. The blue dashed line demarcates the edge of the lesion as in figure 1a. The black arrow marks the balloon of the catheter in the fundus of the urinary bladder.

the Department of Urology at another hospital for a second opinion. Cystoscopy revealed cloudy urine, inflammatory bladder mucosa and a thin-walled – in places pellucid – distension of the dome of the bladder, but no visible perforation. An occult bladder lesion with periodical perforation was suspected and a robotic assisted bladder resection was planned.

During surgery the omentum was found adherent to the scarring from the caesarean section. Behind the omentum a large unhealed defect coated with paper-thin, pellucid and scarious peritoneum was exposed in the bladder dome (Fig.1a). When the bladder was emptied, the adherent omentum was pulled to the neck of the bladder, which is consistent with the bouts of pain described by the patient. The scarious peritoneum was resected (Fig.1b), and the wall of the bladder was sutured in two layers.

The patient was discharged on the second day after surgery with a urinary catheter for two weeks. At follow-up four months postoperatively, she had normal bladder voiding and no pain or other complaints.

## DISCUSSION

Urinary tract lesions after caesarean section are rare [1]. Eighty-nine per cent of the lesions affect the bladder and the rest involves the ureters [2]. In a recent review of iatrogenic bladder injuries following benign obstetrical and gynaecological surgeries caesarean sections accounted for the highest number of bladder injuries (up to 40 per cent of identified injuries) followed by hysterectomies [4]. According to the NICE guideline [7] the incidence is approximately 0.009 per cent in elective primary caesarean sections. The risk increases to 0.1 per cent for one previous caesarean section and to 0.3 per cent for two previous caesarean sections [2,4,5], as in the present case. Previous pelvic and abdominal surgery, adhesions, low gestational age, and low birth weight all increase the risk, whereas the risk when comparing emergency and elective caesarean sections is uncertain [2,3,4,6].

The majority (91 per cent) of bladder lesions are diagnosed intraoperatively and most urinary tract lesions within 10-14 days postoperatively [3,4,5]. Lesions can be identified by cystoscopy or filling the bladder with water or methylene blue [6].

Postoperatively, bladder lesion should be suspected by the presence of gross haematuria, and CT urography or cystography may be used for diagnosis. In the present history cystography was performed after 12 months, when the lesion was covered with peritoneal tissue. Due to only periodical perforation a cystoscopy could not confirm a lesion at this time.

The patient was diagnosed with an iatrogenic bladder lesion 2.5 years after a caesarean section. When recurring symptoms, such as urinary retention, pain, gross haematuria, fever, or sepsis persist following abdominal surgical interventions intermittent uroplania should be considered as a possible complication. Presently, the bladder lesion was suspected because of the medical history and the clinical presentation although imaging scans were inconclusive. Despite a diagnostic laparoscopy with pus in the pelvis and an MRI scan that raised suspicion of a bladder perforation endometriosis was tentatively suspected as the cause of symptoms, which was supported by the initial cystoscopy described as normal. Altogether, this resulted in additionally 1.5 years delay of correct treatment. With a simple surgical intervention the diagnosis of a bladder lesion was confirmed, and the patient successfully treated with complete remission of symptoms. This case emphasizes that explorative surgery still plays an important role in the diagnosis of unsolved cases of abdominal complaints after surgical intervention.

**Conflict of interest:** The authors report no conflicts of interest.

**Acknowledgments:** None.

**Funding information:** No funding was provided for the study.

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