# CLINICAL CASE

Scientific Article
UDC 616.62-089.166.1-06-001-08-035-055.2
DOI: 10.17816/pmj411148-153

## ANALYSIS OF A CLINICAL CASE OF MANAGING A PATIENT WITH INTRAOPERATIVE BLADDER INJURY

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## АНАЛИЗ КЛИНИЧЕСКОГО СЛУЧАЯ ВЕДЕНИЯ ПАЦИЕНТКИ С ИНТРАОПЕРАЦИОННОЙ ТРАВМОЙ МОЧЕВОГО ПУЗЫРЯ

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To analyze a clinical case of successful treatment of a patient with intraoperative bladder injury.
The results of examination and treatment of patient S., 39 years old, were studied. The reasons for iatrogenic bladder injury in this clinical case were two surgeries on the bladder in childhood, a pronounced adhesive process of the small pelvis, and the inability to foresee the atypical localization of the bladder welded to the anterior abdominal wall. A pronounced adhesive process might also be caused by endometriosis, which had not been diagnosed and treated in this patient.

Kalinkina O.B., Tezikov Yu. V., Lipatov I.S., Mayorova M.O., Sreseli G.M., 2024
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Timely referral of the patient to a gynecologist for a check-up with ultrasound examination of the pelvic organs would have allowed to reveal endometriosis, timely treat it and avoid the formation of a large endometrioid cyst, which required surgical treatment. In this clinical case attention is drawn to the lack of an interdisciplinary approach to the management of this patient, defects in dispensary supervision. Despite the complication occurred, performing the stages of operation together with an urologist, adequately prescribed postoperative therapy for the prevention of recurrence of endometriosis, rehabilitation in the urology department made a favorable course of the postoperative period possible, bladder function was restored and clinical manifestations of endometriosis were controlled.
**Keywords.** Endometriosis, iatrogenic bladder injury.

Осуществлен анализ клинического случая ведения пациентки с интраоперационной травмой мочевого пузыря. Изучены результаты обследования и лечения больной С., 39 лет. Причинами ятрогенной травмы мочевого пузыря в данном клиническом случае послужили следующие: наличие двух операций на мочевом пузыре в детстве, выраженный спаечный процесс малого таза, невозможность предусмотреть атипичную локализацию мочевого пузыря, спаянного с передней брюшной стенкой. Выраженный спаечный процесс, кроме перенесенных в анамнезе оперативных вмешательств, мог быть обусловлен также и эндометриозом, не диагностированном и не пролеченным у данной больной.
Своевременное направление пациентки на консультацию к гинекологу с проведением УЗИ органов малого таза позволило бы выявить у нее наличие эндометриоза, провести его своевременное лечение и избежать формирования эндометриоидной кисты больших размеров, потребовавшей проведения оперативного лечения. В данном клиническом случае обращает на себя внимание отсутствие междисциплинарного подхода к ведению данной пациентки, дефекты диспансерного наблюдения. Несмотря на возникшее осложнение, проведение этапов операции совместно с урологом, адекватно назначенная в послеоперационном периоде терапия по поводу профилактики рецидива эндометриоза, реабилитация в условиях отделения урологии позволили добиться удовлетворительного течения послеоперационного периода, восстановления функции мочевого пузыря и купирования клинических проявлений эндометриоза.
**Ключевые слова.** Эндометриоз, ятрогенная травма мочевого пузыря.

## INTRODUCTION

Any case of iatrogenic injury is always analyzed both by the doctor himself, in whose work this complication arose, and by his colleagues in order to prevent such injuries in the future, taking into account all the possible reasons that could lead to it. Iatrogenic bladder injury is one of the common causes of intraoperative injuries, and this complication significantly changes the patient's management tactics and requires special postoperative rehabilitation. Therefore, it is important to pay attention to all the features of the patient's medical history, identifying in advance the reasons that may lead to deviations from the typical performance of the operation. One of these reasons may be the presence of adhesive disease of the pelvis in the patient, due to both the presence of previous surgical interventions on the pelvic organs and endometriosis. Endometriosis is traditionally considered as a persistent, often relapsing disease that requires long-term treatment. Management of patients with this pathology can be very complex due to various clinical forms, as well as the degree of their severity, which makes timely diagnosis difficult. The clinical manifestation of endometrioid disease is

possible in the form of the formation of ovarian cysts, which can reach large sizes [1; 2]. In this case, attention should be payed to the typical clinical manifestations of this pathology, such as abnormal uterine bleeding and dysmenorrhea. Undiagnosed and untreated endometriosis can cause disruption of pelvic microcirculation, development and progression of adhesions, creating difficulties during surgical measures [1; 2]. An interdisciplinary approach to the management of patients, knowledge of the clinical symptoms of the pathology, its timely detection and prescription of effective therapy are important. It is advisable to prescribe hormonal therapy in order to prevent relapse of the disease in patients with endometrioid ovarian cysts after their surgical removal and the exclusion of malignancy at the postoperative stage of management. First-line drugs for the treatment of endometriosis include progestogens, which have important advantages in the treatment of the disease both due to their ability to reduce estrogens to average physiological values, and due to their direct effect on the endometriotic lesions themselves, causing their atrophy [1–4]. The progestagen dienogest, in accordance with its chemical structure and pharmacological properties, can be used in a dosage of 2 mg per day, continuously for a long time, stopping the clinical manifestations of endometriosis and also minimizing the risk of surgical measures [3; 5–7]. In the absence of timely diagnosis and treatment of endometriosis, especially in patients with a history of operations affecting the pelvic organs, the risk of negative consequences of this disease increases. Moreover, surgical measures in such patients may be associated with a high risk of both intra- and postoperative complications.

*The purpose of the study* is to analyze a clinical case of managing a patient with intraoperative bladder injury**.**

## MATERIALS AND METHODS

The results of treatment of patient S., 39 years old, were studied. The patient was in inpatient treatment at the Perinatal center of the State Budgetary Healthcare Institution V.D. Seredavin Samara Regional clinical Hospital, she was admitted for planned surgical treatment to the gynecology department. Upon admission – complaints of nagging pain in the lower abdomen, intensifying during the previous menstrual period, heavy, prolonged menstruation. History: abnormal uterine bleeding, dysmenorrhea (menarche since 14 years). Regular supervision by a gynecologist was not carried out. The last visit to the gynecologist with an ultrasound of the pelvic organs was a year ago. Diagnosis: chronic salpingo-oothecitis. Adhesive disease of the pelvic organs. Antibiotic therapy was prescribed and observation by a urologist was recommended. There were no pregnancies, the patient was unmarried, and used mechanical contraception. A mass in the pelvis was discovered during an ultrasound of the abdominal organs, prescribed by a urologist, to whom the patient consulted about nagging

pain in the lower abdomen. Before this, the patient periodically consulted a urologist with similar complaints, and she was diagnosed with chronic pyelonephritis of a single kidney. Nephrolithiasis. Adhesive process of the small pelvis. Courses of antibiotic therapy and uroseptics were prescribed, achieving a slight reduction in pain intensity. The patient had not sought medical help for a year before this incident, and there was no regular urologist supervision. The patient independently took painkillers and uroseptics. According to the patient, in childhood she underwent surgery for defects of the urinary system, which was accompanied by bladder traumatic injury, which required surgical treatment; the postoperative period was accompanied by a septic condition; subsequently, a bladder fistula formed, requiring repeated surgery. Medical reports on these surgical interventions were lost. Subsequently, due to impaired renal function, a left nephrectomy was performed (five years before the present admission to the hospital). The patient also did not provide an extract from the medical history. S. was admitted for surgical treatment as an outpatient, fully examined; no contraindications to surgical treatment were identified.

## RESULTS AND DISCUSSION

Referral diagnosis: large formation of the right ovary (endometrioid cyst?). Condition after left nephrectomy. Chronic pyelonephritis of a single kidney in remission. CRI0. Nephrolithiasis. Adhesive process of the small pelvis. Condition after two bladder surgeries in childhood. Estimated scope of surgical measures: laparotomy, adhesiolysis, cystotubovariectomy on the right with a express biopsy of the removed macroscopic specimen intraoperatively with a possible expansion of the surgical intervention scope. During a lower midline incision, an iatrogenic injury occurred to the bladder, which was intimately connected by adhesions to the pelvic peritoneum, aponeurosis, subcutaneous fat for 1.5 cm, and the right ovary. The right ovary is represented by an endometrioid cyst with a diameter of 15 cm, the fallopian tube on the right with signs of chronic inflammation, endometriosis of the uterus. The appendages on the right have been removed. Conclusion of express biopsy: endometrioid ovarian cyst. A urologist was called into the operating room. He clarified the localization of the site of iatrogenic bladder injury, it occurred in the area of its anterior wall, and a pronounced adhesive process of the small pelvis was identified. The anterior wall of the bladder is adherent to the anterior abdominal wall. The urologist performed an operation – suturing an iatrogenic bladder injury. An epicystostomy was performed. The postoperative period was satisfactory. The patient received antibacterial, anti-inflammatory, and infusion therapy, and the urologist's recommendations for the management of the postoperative period were followed. General blood and urine tests, biochemical blood test at discharge – without pathology. The result of a histological examination of the specimen: endometrioid

cyst of the right ovary, chronic right-sided salpingitis. 15 days after the operation, the patient was discharged from the gynecology department and transferred to the urology department of the V.D. Seredavin Samara Regional Clinical Hospital for further treatment, a month later the epicystostomy was closed. The patient was given recommendations for the treatment of endometriosis and pelvic adhesive disease (hirudotherapy, Bovhyaluronidaze azoximer 3000 IU, 10 rectal suppositories at an interval of two days). It is recommended to take dienogest at a dosage of 2 mg continuously for six months, followed by consultation and a decision on further management tactics. During the follow-up examination and general surveying of the patient, carried out six months later, including an ultrasound scan of the pelvic organs, the following conclusion was obtained: the ovary on the left is without pathology, single hypoechoic inclusions in the myometrium (foci of endometriosis). When conducting a biochemical blood test, a general analysis of urine and urine according to Nechiporenko, and a study of bladder function, no pathology was detected. It is recommended to continue taking dienogest at the same dosage, followed by a dynamic examination after six months and subsequent follow-up with a gynecologist and urologist. Clinically, the patient showed a marked improvement in her condition, there was no bleeding or pain. The consequences of iatrogenic bladder injury were also completely eliminated. Bladder function is not impaired.

## CONCLUSIONS

The causes of iatrogenic bladder injury in this clinical case were the following: the presence of two surgeries on the bladder in childhood followed by nephrectomy, a pronounced adhesive process of the small pelvis, due to both the presence of surgeries on the pelvic organs and undiagnosed and untreated endometriosis. When analyzing this clinical case, it should be noted that timely referral of the patient for a consultation with a gynecologist with an ultrasound of the pelvic organs would have revealed endometriosis, which could have been suspected, given the typical clinical manifestations. This would make it possible to carry out timely treatment and avoid the formation of a large endometrioid cyst, which required surgical treatment. Observation of the patient with pathology of the urinary system by relevant professionals was not regular and did not include recommendations on the need to consult a gynecologist and conduct clarifying diagnostics. In this clinical case, attention is drawn to the lack of an interdisciplinary approach to the management of this patient and defects in dispensary supervision. Despite the complication occurred, performing the stages of operation together with an urologist, adequately prescribed postoperative therapy for the prevention of recurrence of endometriosis, rehabilitation in the urology department made a favorable course of the postoperative period possible, bladder function was restored and clinical manifestations of endometriosis were controlled.

## References

1. *Leyland N., Casper R., Laberge P., Singh S.S.; SOGC.* Endometriosis: diagnosis and management. J. Obstet. Gynaecol. Can. 2010; 32 (7): S1–S32.

2. Practice bulletin no. 114: management of endometriosis. Obstet. Gynecol. 2010; 116 (1): 223–236.

3. *Sonova M.M., Laskevich A.V., Shamugiya N.M.* Evolution of hormone therapy of endometriosis. *Effective Pharmacotherapy. Obstetrics and Gynecology* 2014; 23 (2): 2–6 (in Russian).

4. *Bulun S.E.* Endometriosis. N. Engl. J. Med. 2009; 360 (3): 268–279.

5. *Sasagawa S., Shimizu Y., Kami H., Takeuchi T., Mita S., Imada K., Kato S., Mizuguchi K.* Dienogest is a selective progesterone receptor agonist in transactivation analysis with potent oral endometrial activity due to its efficient pharmacokinetic profile. Steroids 2008; 73 (2): 222–231.

6. *Harada T., Momoeda M., Taketani Y., Aso T., Fukunaga M., Hagino H., Terakawa N.* Dienogest is as effective as intranasal buserelin acetate for the relief of pain symptoms associated with endometriosis-a randomized, double-blind, multicenter, controlled trial. Fertility and sterility. 2009; 91 (3): 675–681.

7. *Orlova S.A., Balan V.E., Levkovich E.A.* Current trends in medicinal treatment of endometriosis. *Meditsinskiy sovet.* 2015; (XX): 28–33. DOI: 10.21518/2079-701X-2015-XX-28-33 (in Russian).

**Funding.** The study had no external funding.

**Conflict of interest.** The authors declare no conflict of interest.

**Author contributions:**

Kalinkina O.B., Mayorova M.O. – literature review, text writing.

Tezikov Yu.V. – research concept.

Lipatov I.S. – collection and processing of materials.

Sreseli G.M. – study design.

Received: 10/23/2023
Revised version received: 12/20/2023
Accepted: 01/15/2024

Please cite this article in English as: Kalinkina O.B., Tezikov Yu.V., Lipatov I.S., Mayorova M.O., Sreseli G.M. Analysis of a clinical case of managing a patient with intraoperative bladder injury. *Perm Medical Journal*, 2024, vol. 41, no. 1, pp. 148-153. DOI: 10.17816/pmj411148-153