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OPTIMIZATION OF SUTURING METHODS FOR INTRAPERITONEAL RUPTURES OF THE URINARY BLADDER

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Abstract:

Article presents the results of traditional and minimally invasive laparoscopic surgical methods for the treatment of intraperitoneal bladder ruptures. The advantages and disadvantages of each of the methods are analyzed. It has been established that laparoscopy is accompanied by fewer surgical complications, a more favorable safety profile, and better immediate and long-term results. When using this method, the time of hospital stay is reduced by almost 2 times.

Keywords: Urinary Bladder, Intraperitoneal Rupture, Suturing, Laparoscopy

INTRODUCTION.

The diagnosis and treatment of closed bladder injuries, especially intraperitoneal ruptures, have not been adequately studied [1,2,3]. Mistakes in the use of retrograde cystography, ultrasound and other traditional methods (cystoscopy, Zeldovich's test, descending cystography) reach 13.7-44.8% [5,6,7,8,11]. Laparoscopy has been used successfully for a long time, but according to Davidov M.I. et al. [5] technical imperfection of the old equipment reduced its informational value. The use of laparoscopy significantly improves the diagnosis of intraperitoneal bladder injuries.

Intraperitoneal bladder ruptures (IPBR) are still sutured by open surgery, but they are associated with high mortality (18-45%), 18-57% of patients develop various complications, and hospitalization is difficult. The average duration is 23-30 days. 10,12]. Suturing of bladder ruptures during laparoscopy have not been adequately developed [13,14,15]. There are few publications in the scientific literature about the use of this method [15,16,17]. Observations in the foreign literature suggest that laparoscopic suture technique of bladder rupture is contradictory, and the instructions and contraindications for this method are not specific [5].

PURPOSE.

Determine the effectiveness of laparoscopy over traditional surgical methods in the diagnosis and treatment of IPBR.

MATERIALS AND METHODS.

Data of examination and results of treatment of 64 patients with IPBR treated in the Department of Emergency Urology of the Samarkand branch of the Republican Research Centre Of Emergency Medicine (RSCEM). In the period from 2017 to April 2022. The age of the patients was 16-72 years (mean 48.2 ± 1.8 years). 45 (70.0%) men and 19 (30.0%) women. In all patients, the rupture of the bladder was complete. All patients were divided into 2 groups. 42 patients included in the first (control) group underwent conventional surgical treatment (laparotomy, suturing the injured area). The second (main) group included 22 patients who underwent minimally invasive surgery (laparoscopy, laparoscopic suturing of a bladder wall defect).

Laparoscopy was performed under general anesthesia in a specially equipped operating room. The central laparoport (10 mm) was inserted paraumbilically, and additional (auxiliary trocars) were placed in the right and left lateral areas. The results were recorded on electronic media. A video endoscopic stand was used for video laparoscopic diagnostics and therapeutic interventions, as well as equipment and tools from Karl Storz.

RESULTS.

When the mechanism of bladder ruptures was studied, 32 (50%) patients were found to have injuries as a result of a blow to the abdomen. 20 (31.3%) were intoxicated by alcohol. In 4 (6.2%) patients, bladder injury was combined with a pelvic fracture. Bladder injuries were often isolated. In 38 (59.4%) patients, combined injuries were as follows: in 26 (40.6%)

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patients with rupture of the small intestine (4), liver (3), spleen (3).

By the time of hospitalization, only 13 (21.4%) were hospitalized within the first 6 hours from the time of injury, and 21 (32.8%) - between 7 and 12 hours. However, no peritonitis was observed in 4 (6.2%) patients, peritonitis was observed in 6 (9.4%) patients, and 30 (47.0%) patients were hospitalized more than 12 hours after injury. Acute urinary retention was observed in 56 (87.5%) patients. Twenty-four (37.5 percent) patients were in critical condition and 12 (18.7 percent) were in moderate condition.

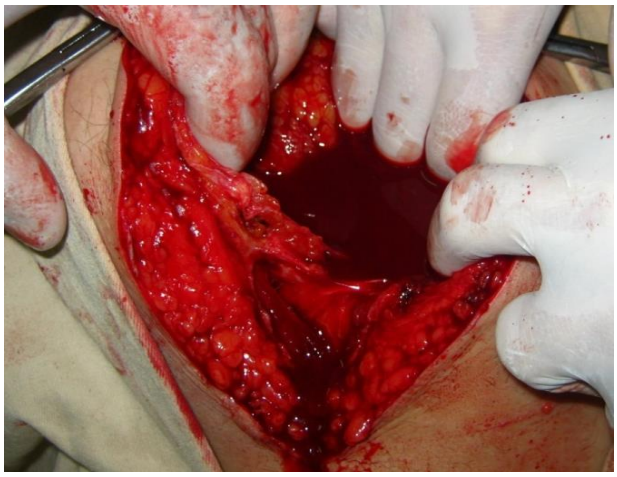
For diagnosis, catheterization of the bladder with a disposable elastic catheter, Ya.B. Zeldovich's test, KUB urography and intense retrograde cystography were used. When fluid was detected in the abdominal cavity, according to ultrasound data, laparocentesis or laparoscopy was resorted to.

DISCUSSION

In the provision of emergency surgical care in closed abdominal injuries, we used laparoscopy, which allowed to reduce the number of unnecessary diagnostic laparotomies. Endovideo surgical intervention plays an important role in emergencies. In 21 patients with suspected abdominal rupture with closed bladder injury, laparocentesis was performed first, followed by diagnostic laparoscopy. In 6 of them (28.6%) no bladder injury was detected, in 3 patients a small defect in the bladder wall was detected and eliminated by laparoscopic surgery. The remaining 12 patients (57.2%) needed an open laparotomy. The presence of free fluid in the abdominal cavity or extraperitoneal cavity is indicative of intraperitoneal or extraperitoneal rupture, respectively.

Forty-two patients of 1st group I received emergency medical care through laparotomy, double-stitch suturing, and abdominal drainage. At the same time, liver rupture was eliminated in 2 patients, small bowel rupture in 1 patient, and spleen rupture in 1 patient.

Clinical case of patient with IPBR. Patient J., 55 years. Preoperative diagnosis: Intraperitoneal bladder rupture. Urinary peritonitis Surgery: Laparotomy. Suturing of the bladder wall rupture. Sanitation and drainage of the abdominal cavity. Cystostomy (Figure 1).



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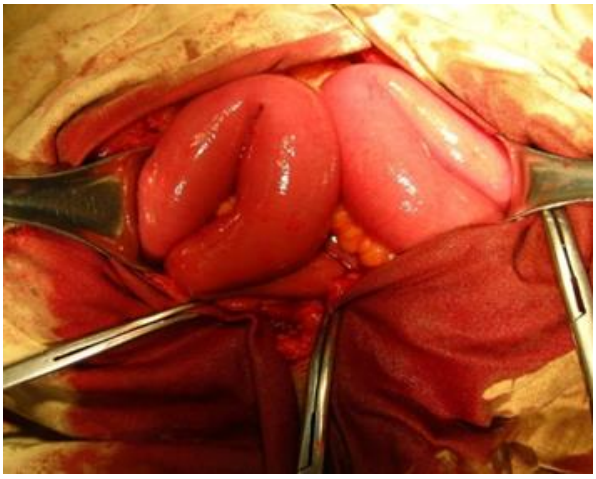
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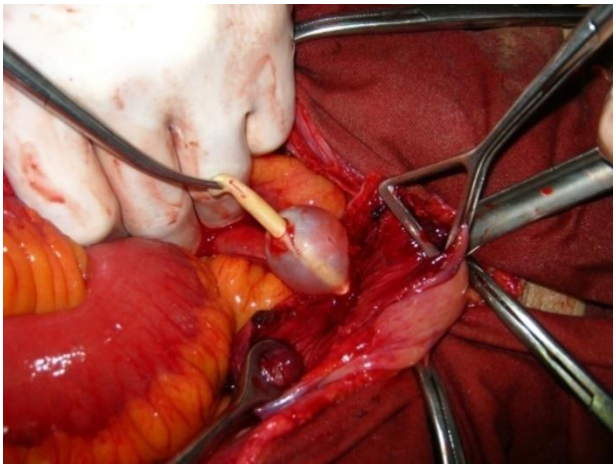
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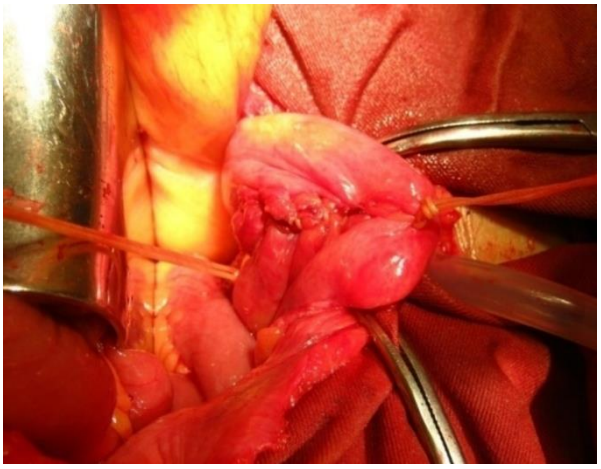
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Figure 1. a - the presence of blood and blood clots in the abdominal cavity; b, c - removal of blood clots from the abdominal cavity; d - inspection (revision) of abdominal organs; e - rupture of the bladder was detected and the balloon of the Foley catheter was located in the abdominal cavity; e - suture the bladder rupture with two rows of sutures; g - completion of the operation, drainage of the small pelvis.

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Twenty-two patients in the main group underwent video laparoscopic suturing of the bladder rupture. Injuries to the abdomen are often indicative of laparotomy because injury to internal organs could not be ruled out. However, with this approach, according to various authors [5,8,9,11], up to 30% of laparotomies are performed in vain because there is no damage to internal organs. To exclude such cases, we make extensive use of emergency diagnostic laparoscopy in patients with penetrating injury of the abdominal cavity.

The average duration of diagnostic laparoscopy was 20 ± 7 minutes, and the average duration of endosurgical operations was 60 ± 23 minutes. Postoperative period with laparoscopy was 9.0 ± 2.1 days, with laparotomy - 13.2 ± 3.5 days. With laparoscopic suturing of a bladder wall defect, the number of surgical complications is significantly reduced, amounting to 9.0% versus 16.7% with open interventions. for open interventions. All of this suggests that the bladder wall defect is an advantage of laparoscopic suturing.

CONLUSION.

Laparoscopic suturing as a method of surgical intervention in intraperitoneal bladder ruptures is characterized by a shorter duration of surgical intervention, with a good safety profile. At the same time, the length of stay in bed and rehabilitation of patients is almost two times shorter compared to open suturing of the bladder rupture during laparotomy.

REFERENCES.

1. Аллазов С.А. Изолированные и сообщающиеся с брюшной полостью повреждения почек и мочевых путей. Медицинский журнал Узбекистана 2011; 6: 66-69.
2. Аллазов С.А. Повреждения почек и мочевыводящих путей. Урология 2012; 6:110-112.
3. Аллазов С.А., Гиясов Ш. И., Насыров Ф.Р. Современные взгляды на травматические повреждения мочевыделительной системы. Вестник экстренной медицины 2011; 3: 103-107.
4. Басиашвили Г.Т., Гатауллин И.Г., Хайруллина Г.Р., Ульянин М.Ю., Интра- и послеоперационные осложнения урологического характера при операциях на органах малого таза. Практическая медицина. 2017; 6(107): 13-14.
5. Давидов М.И., Гернер А.О., Никонова О.Е., Алгоритм диагностики и лечения внутрибрюшинного разрыва мочевого пузыря. экспер. и клин. урология. 2016; 4:116-121.
6. Жебентяев А.А., Голдыцкий О.С., Современные методы диагностики и лечения травм органов мочеполовой системы. Пособие. УО «Витебский государственный медицинский университет» 2009; 28-32.
7. Зельдович Я.Б. Цит: по Люлько А.В. Повреждение органов мочеполовой системы. Киев: Здоровья, 1981. 77 с.
8. Рашидов М.М., Боймурадов Ш.Э. Роль видеолапароскопии в диагностике и лечении повреждений мочевого пузыря. Вестник экстренной медицины, 2017, X (2):28-30.
9. Хаджибаев А.М., Рашидов М.М., Уринбаева Н.М., Диагностика и лечение травм нижних мочевыводящих путей. Вестник экстренной медицины, 2018; 3(11):37-43.
10. Johnsen N.V. et al.Epidemiology of Blunt Lower Urinary Tract Trauma With and Without Pelvic Fracture. Urology 2017; 102: 234.
11. Mortelmans D., Messaoudi N., Jaekers J., Bestman R., Pauli S., Van Cleemput M. Laparoscopic repair of intraperitoneal bladder rupture blunt abdominal trauma. J Urology 2014; Vol. 11,№1. P. 1338-1340.
12. Parry N.G., Rozycki G.S. Traumatic rupture of the urinary bladder. J Trauma 2003; 54: 431-436 doi.org/10.1097/01.ta.0000053196.19218.4f.
13. Pereira BM, de Campos CC, Calderan TR. et al. Bladder injuries after external trauma: 20 years experience report in a population-based cross-sectional view. World J Urol. 2013 Aug;31(4):913-7.
14. Phillips B, Holzmer S, Turco L. et al. Trauma to the bladder and ureter: a review of diagnosis, management, and prognosis. Eur J Trauma Emerg Surg. 2017; Dec;43(6):763-773.
15. Santucci R.A., Bartley J.M. Urologic trauma guidelines: a 21st century update. Nat Rev Urol. 2010; 7(9):510-9.
16. Summerton DJ, Kitrey ND, Lumen N. et al. European Association of Urology. EAU guidelines on iatrogenic trauma. Eur Urol. 2012 Oct;62(4):628-39.
17. Urry R.J., Clarke D.L., Bruce J.L., Laing G.L. The incidence, spectrum and outcomes of traumatic bladder injuries within the Pietermaritzburg Metropolitan Trauma Service. Injury. 2016; 47(5):1057-63.