RECTOVAGINAL FISTULA AFTER GASTROINTESTINAL TRACT CONTINUITY RESTORATION USING A STAPLER – CASE REPORT

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The authors presented a case of rectovaginal fistula in a 40-year old female patient after gastrointestinal tract continuity restoration (Hartmann’s operation) performed because of iatrogenic rectal damage. The most likely cause of rectovaginal fistula development was the erroneous introduction of the stapler into the vagina and sigmoidovaginostomy during an attempt to reconstruct the continuity of the gastrointestinal tract. In order to reconstruct the continuity of the gastrointestinal tract the patient was subject to anterior rectal resection, sigmoidorectostomy, and closure of the fistula inside the vaginal wall by its duplication. Additionally, a double protective ileostomy was performed, which was subject to closure after three months.

Key words: rectovaginal fistula, stapler

Rectovaginal fistulas are pathological connections between the large bowel and vagina lined with epithelium. Those fistulas are usually manifested by winds passing through the vagina, and concomitant secretion of stool or mucous-purulent secretions. This is accompanied by frequent urinary tract or reproductive system infections, psychological discomfort, sexual function disturbances, dyspareunia or perineal pain.

The criteria for the division of fistulas consider their location, size, and etiology. Type of fistula implies management and therapy.

The so-called low fistulas are located between the lower part of a rectum (1/3 low part) and lower part of a vagina – the above-mentioned may be approached from the perineum (transvaginal, transperineal, transrectal); high fistulas are located between the middle and upper part of a rectum, and posterior wall of a vagina. Their correction usually requires the transabdominal approach (1).

Considering the size of fistulas they can be divided into small (<0.5 cm), medium (0.5-2.5 cm), and large (>2.5 cm).

The causes of rectovaginal fistulas are as follows (descending frequency):
1) perinatal injuries (88% of cases),
2) intestinal inflammatory diseases (mainly Crohn’s disease) – nearly 9% of cases,
3) post-radiation fistulas (tele/brachytherapy adjuvant to cervical, endometrial, vaginal, and vulvar carcinoma),
4) neoplasms (anorectal and minor pelvic tumors),
5) perioperative injuries, iatrogenic fistulas (transvaginal hysterectomy, anterior resection of the rectum – 0.9-10%),
6) infections (tuberculosis, lymphogranuloma venereum, Bartholin’s gland abscesses, HIV, HPV, CMV, and schistosomiasis) (2).

Rectovaginal fistulas are rare complications following restoration of a continuity of the gastrointestinal tract, resulting from a technical error in the use of a stapler.

CASE REPORT

A 40-year old female patient was admitted to the Department of Surgery for planned treatment of a rectovaginal fistula.
In the past the patient underwent a laparotomy, due to a left ovarian cyst with uterine extirpation in addition to the left appendages. During the procedure rectal perforation occurred. Hartmann’s procedure was performed. The histopathological examination of the removed structures showed a left ovarian endometrial cyst. The excised rectum showed endometriosis foci with coexisting inflammation.

Seven months later the patient was qualified for gastrointestinal tract continuity restoration. After the procedure the histopathological examination evaluated tissue collected from the stapler; the distal tissue ring demonstrated the presence of a stratified non-cornifying vaginal squamous epithelium. On the fourth day after gastrointestinal continuity restoration the patient observed fecal leakage and gases from the vagina—nonethless, she was discharged from the hospital. Due to the persistence of these symptoms she was readmitted and conservative treatment initiated. On the basis of colonoscopy and the gynecological examination she was diagnosed with a rectovaginal fistula.

After yet another seven months she was admitted to the hospital for treatment. She continued to complain of fecal leakage and gases from the vagina. On admission, the patient was in good general condition. During the vaginal examination the posterior wall of the vagina was location to an ostium, the size of a finger lesion with presence of feces. The “per rectum” examination was normal. Rectoscopy demonstrated (12-14 cm from the edge of the rectum) a closed rectal stump. Below, 7 cm from the rectal line one observed a fistula opening, 1 cm in diameter (fig. 1).

On the basis of the medical history, physical and gynecological examinations, and rectoscopy the patient was diagnosed with a rectovaginal fistula, which was probably a consequence of the improper restoration of the continuity of the gastrointestinal tract.

The patient was qualified for laparotomy. During the procedure we observed a wide anastomosis between the fornix of the vagina and sigmoid colon; just below one observed a fistula between the posterior wall of the vagina and anterior wall of the rectum (1 cm in diameter). The rectal stump closed by means of a linear stapler was located 8-10 cm above the rectovaginal fistula (fig. 2).

In this case, the sigmoid colon was severed from the vagina, and the rectum was prepared from the vagina, 2 cm below the lower fistula. The rectal opening was closed by means of a TA-45 stapler and the rectal stump was subject to resection. The vaginal stump was closed by means of a double layer of sutures with wall duplication. The rectal stump was subject to tension-free sigmoidorectostomy using an EEA 28 stapler. A double protective ileostomy was exteriorized nearly 12 cm from Bauhin’s valve. Redon’s drain was placed into the minor pelvis. A fragment of the pedunculated omentum was
introduced between the vaginal stump and the sigmoidorectostomy. The abdominal integuments were closed by means of layered sutures. The postoperative course proved uneventful. On the fifth postoperative day the patient was discharged from the hospital in good general condition.

Control gynecological and endoscopic examinations showed no presence of the fistula. The wide sigmoidorectoscopy was patent. After three months the patient was once again admitted to the department, in order to manage the ileostomy. The procedure was performed according to qualifications without complications. The patient was discharged from the hospital in good general condition on the third postoperative day.

**DISCUSSION**

The most common cause of rectovaginal fistula development after gastrointestinal tract continuity restoration using the stapler method is the retraction of the posterior vaginal wall into the anastomotic line. Sigmoidovaginostomy, as a result of the erroneous introduction of the stapler into the vagina is the subject of isolated study reports (3, 4).

The occurrence of the above-mentioned complication is correlated with the experience and skills of the operating team. Technical errors most often include the inadequate dissection of the posterior vaginal wall from the rectal stump, or during maneuvering of the stapler, which leads towards improper sigmoidorectoscopy. Other reasons include inadequate visualization, due to difficult anatomical (narrow minor pelvis anastomosis) or technical conditions (such as the illumination of the operating room) (5).

In order to prevent the development of fistulas during reconstruction of the continuity of the gastrointestinal tract it is recommended to retract the vagina from the anastomotic line, and perform a per vaginam examination directly before the use of a stapler. It is also important to prepare the bowel for anastomosis-a poorly dissected bowel, thick distally located tissues lead towards incomplete incision and anastomosis.

Considering the presented case the rectum was closed 12-14 cm from the anal orifice, followed by erroneous introduction of the stapler into the vagina, which lead towards rectovaginal fistula development.

Thus, the presence of symptoms which occurred on the fourth day after the operation, after complete mobilization of the gastrointestinal tract (in case of typical rectovaginal fistulas symptoms usually develop in the distant future (average – 23 days) (6, 7).

It is not entirely clear, what is the reason for the development of the lower fistula (between the posterior vaginal wall and rectal stump). The occurrence of the above-mentioned thanks to the retraction of the anterior rectal wall into the stapler line is unlikely, due to the distance between the fistula and suture line. The fistula might have been created in connection with the patients’ initial complaints (endometriosis with inflammation of the rectal wall) or as a consequence of the effect of the feces on the vaginal wall and “penetration” to the rectal ampulla.

Management in case of rectovaginal fistulas depends on their location and size. Considering the presented study case, the correction of the erroneous anastomosis required laparotomy, excision of the sigmoid colon from the vagina, and resection of the rectal stump and proper sigmoidorectostomy. The vaginal stump was closed using double-layered sutures with duplication of its wall. The anastomotic line was separated from the sutured vaginal wall by means of the pedunculated omental flap.

In seems that in such cases it is reasonable to perform protective stomy, which was done.

It is regrettable that corrective surgery was performed after seven months since the occurrence of complications, after unsuccessful observation attempts and troublesome conservative treatment.

**REFERENCES**


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