Other full case

Conservatively treated perforation of the neovagina in a male to female transsexual patient

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Summary

An unknown number of patients have had male to female gender transformation. Various surgical techniques have been employed to construct the neovagina. The more traditional techniques include inverted penile grafts and vascular pedicle grafts, but also the small bowel and sigmoid colon have been used. In this case, the authors present a patient who previously had a gender transformation from male to female with use of bowel for the neovagina. The patient presented with severe abdominal pain, fever and leukocytosis. A CT scan revealed retroperitoneal free air, and an x-ray examination with contrast through the neovagina showed leakage from the neovaginal top. The patient was treated conservatively with antibiotics and discharged after 7 days.

BACKGROUND

Male to female gender transformation demands highly specialised surgery.^{1–4} Short-term and long-term complications are known to gender transformation, including vaginal stenosis, obstruction of the urethral opening and rectovaginal and urethrovaginal fistula.^{1 2 5–7} As these patients have undergone extensive surgery, acute surgical intervention may be complicated, and it may be advisable to treat these patients conservatively whenever possible. We present a case with perforation of the neovagina treated conservatively, and to our knowledge no such case has been described before.

CASE PRESENTATION

A 52-year-old woman was admitted due to severe lower abdominal pain and fever. The patient claimed to be healthy and her only medication was estradiol 2 mg daily. The patient's pain initially started as bilateral lower back pain, and she was given antibiotics for urinary tract infection by a general practitioner. Two days later, her pain moved to the lower abdomen, and the pain was severely worsened, which caused the admission. No rebound tenderness was found at abdominal palpation and she had no signs of sepsis. Due to the lower abdominal pain, pyelonephritis or appendicitis was suspected and an abdominal

Figure 1 CT scan of the abdomen revealing free air in the retroperitoneum, in the small pelvis and along the left psoas muscle.

Figure 2 Vaginal contrast examination, showing a leak through the vaginal top.

ultrasound was performed, but didn't show any pathology. Based on the consistent severe abdominal pain an abdominal CT scan was performed. The CT scan revealed free air in the retroperitoneum, in the small pelvis and along the left psoas muscle (figure 1). The CT scan also revealed the results of gender transformation, male to female. The patient revealed that she had a male to female gender transformation at the age of 18, with the neovagina made from an intestinal graft, probably the sigmoid colon. The patient never had complications to the gender reassignment surgery. Since there was no rebound tenderness and the patient remained stable without any sign of sepsis, laparotomy was postponed. The patient was instead referred to the gynaecologists for an examination of the neovagina, in order to localise the leak. The gynaecologic examination and vaginal ultrasound examination was inconclusive and there was no visible perforation at the vaginal top. The patient's vaginal discharge was described as blurry and the suspicion of a rectovaginal fistula was

raised. Hence, a contrast examination per rectum was performed and showed an intact colon. Despite an apparently intact colon, the patient was still given brilliant blue orally, resulting in no vaginal discharge of brilliant blue. In the meantime, the patient admitted to having cleansed her vagina with a douche pump, before the onset of the abdominal pain. The patient explained that she daily filled the douche pump with water and rinsed her vagina; in addition, she rinsed her vagina after sexual intercourse. In this case, the patient had not paid attention and hadn't filled water into the douche pump, so she had pumped air into the neovagina, and later on the abdominal pain had started. Thus, a perforation of the vaginal top was suspected. A vaginal contrast examination was made, and it showed a leak through the vaginal top (figure 2). The patient remained clinically stable, without progression in her abdominal pain and without symptoms of sepsis. Thus, she was monitored with daily blood samples and treated conservatively with intravenous cefuroxim 1500

mg three times a day and metronidazol 500 mg three times a day. The leucocyte count was increasing, and intravenous gentamicin 240 mg once a day was added on day 3 to the antibiotic regimen. The patient responded clinically to the antibiotic treatment and her leucocyte levels declined. The abdominal pain disappeared and the patient was discharged on day 7 with oral antibiotic treatment, metronidazol and amoxicillin, for 10 more days. She was advised not to have vaginal intercourse for 6 weeks in order for the vaginal defect to heal.

DIFFERENTIAL DIAGNOSIS

- Perforated diverticulitis
- Pyelonephritis
- Colovaginal fistula

TREATMENT

- Antibiotic treatment
- Supportive therapy

OUTCOME AND FOLLOW-UP

The patient was seen 10 weeks later in the outpatient clinic. After the discharge from hospital, her vaginal discharge was normalised. Eight weeks after the discharge from the hospital, the patient had vaginal intercourse and had not experienced any pain or discomfort during or after this. Her condition was completely normalised.

DISCUSSION

Despite the fact that our patient never had complications to her gender reassignment surgery, the neovagina leaked after the use of a douche pump. The CT scan revealed free air in the retroperitoneum, which usually necessitates laparotomy. Since the patient previously had extensive surgery a new laparotomy could be complicated. As the patient's clinical condition remained stable without progression and any sign of sepsis, we chose to treat our patient conservatively with antibiotics and monitor her closely.

Various surgical techniques have been employed to construct the neovagina. Using an intestinal graft, as the sigmoid colon, has the advantages of being a mucous membrane providing adequate lubrication and providing more adequate vaginal length than penile inversion, and has less incidence of scarring compared to skin grafts.^{1 5} Ninety-six to 99% of the normal sigmoid bacterial flora consists of anaerobes mainly *Bacteroides* species, fusobacteria and lactobacilli with count estimated to be 10^{11} per gram faeces. The microflora of the sigmoid neovagina contains only normal inhabitants of the colon, but the total

Learning points

- This case report emphasises the importance of history taking in all details, and a thorough examination of the patient.
- Conservative treatment with antibiotics and close monitoring is a possible way to treat these patients provided the patient is reviewed on a regular basis in order to detect signs of sepsis and peritonitis.

count of bacteria (10^3 – 10^{11} /g) is lower than reported for a healthy sigmoid colon.⁹

Having a leak through the sigmoid neovagina makes a passage for colon bacteria to the abdominal cavity or retroperitoneal space. Had the patient not responded well to antibiotic treatment, surgery with drainage might have been necessary, and since the patient had extensive surgery 32 years ago a new laparotomy could potentially be complicated. The management algorithm should therefore be guided by the clinical condition. Conservative treatment in the acute phase with antibiotics and close monitoring is a possible approach in this patient category, provided that the patient is reviewed on a regular basis in order to detect signs of peritonitis and/or sepsis. The follow-up should proceed with focus on signs of late abscess formation and local neovaginal complaints.

Competing interests None.

Patient consent Obtained.

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