

Sigmoid Diverticulitis: A Rare Complication of Colovaginoplasty

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Abstract Colovaginoplasty is a surgical technique using a segment of the colon along its vascular pedicle to form neovagina and its lining. This surgery is usually performed on women with androgen insensitivity syndrome, congenital adrenal hyperplasia, vaginal agenesis, müllerian agenesis, and in sex reassignment surgery. We report a case sigmoid diverticulitis in a 64 years old female with history of colovaginoplasty transgender surgery using sigmoid colon. The literature is reviewed, and MRI imaging findings are highlighted.

Keywords: Neovaginal construction, Magnetic Resonance Imaging, Transgender surgery, Colonic diverticulitis

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1. Background

Transsexualism is not a modern innovation. Naturally-occurring deviation in human gendering has always been observed and documented. As sex hormones and plastic surgery were made available after the Second World War, it became possible to think of complete medical and surgical solutions for transsexualism to relieve deep cross-gender feelings [1-6]. During the 1950's, men who underwent transgender surgery started to benefit from the newly available female sex hormones, which enable the development of breast, soften the skin and over time produce female body contours. Also during the 1950's, few surgeons introduced exploratory surgeries to construct vaginas in male-to-female transsexual surgeries by using different types of grafts [1-6].

Vaginal reconstruction is indicated in different medical conditions including vaginal agenesis, gender dysphoria in biological males, müllerian agenesis and genital trauma. Different techniques are available for construction of the neovagina in male-to-female reassignment surgery. The penile-scrotal skin flap technique is considered the gold standard in vaginoplasty; however, due to its good sexual

and psychosocial outcomes, the use of the colon especially sigmoid for reconstruction is considered a good alternative surgery [1-6].

The colovaginoplasty technique is a creation of a vagina by cutting a segment of the colon along with its vascular pedicle and using it to form vaginal lining. Colon, cecum, or ileum are used for bowel vaginoplasty but the sigmoid colon is favored over the others [7].

2. Case Report

64 years female referred to our MRI service for pelvic MRI, she was complaining of 2 months history of recurrent vaginal bleeding and yellowish discharge, her past medical history is significant for uncomplicated colovaginoplasty in 1974 for transgender surgery.

MRI revealed long segment of sigmoid colon forming the neovagina with multiple variable sized diverticula compatible with diverticulosis, some of which are surrounded by inflammatory changes. No abscess collection or perforation. The radiological findings were consistent with acute uncomplicated diverticulitis in the neovagina (Figure 1).

64 years old female presented with vaginal pain and discharge.

Technique: Multiplaner Multisequence MRI study of the pelvis after administration of 15 ml Multihance IV contrast

Findings: Long neovaginal segment in coronal (A) and sagittal (B) T2 weighted images (Arrow) demonstrates multiple small diverticular outpouching (Letter X) in axial T2 (C) weighted images with fat saturation with slight wall thickening surrounded by mild fat stranding (Arrowhead). Sagittal T1 weighted images with fat saturation post contrast illustrates diverticular pouch enhancement and surrounding fat stranding (Green arrow).

Figure 1.



Figure

The patient was treated on an outpatient basis for 10 days with antibiotic therapy and reported resolution of her symptoms.

3. Discussion

Colovaginoplasty is considered an appropriate alternative procedure for vaginal reconstruction. According to Rajimwale's et al criteria, it is self-lubricating; can grow with the child when used to create a neovagina before puberty; there is a minimal risk of stenosis; it is close to the perineum; it has an easily mobilized vascular pedicle; and it does not require molding or stenting [9]. Sigmoid vaginoplasty provides a pleasing neovagina with a good length, natural lubrication, and reduces the need for stenting and/or dilatation [7].

We reviewed the literature and found that the most common complications include UTI, vaginal candida and post colectomy complications [8]. Diversion colitis, which is a nonspecific inflammation affecting a colon segment

that is diverted from the fecal stream by surgery, can be seen as a long term complication of colovaginoplasty. The diagnosis of diversion colitis is usually made by endoscopy and histopathology evaluation [12,13]. Patients with colovaginoplasty are rarely presented with ulcerative colitis, adenocarcinoma of the neovagina, and perforation of the neovagina [10,14,15]. What makes our case exceptional is that the patient presented with diverticulosis and diverticulitis in the sigmoid segment forming the neovagina.

Colonic diverticulitis is an inflammation of the diverticula arising from the colon. They are nearly all false diverticula. The mucosa herniation is usually seen where nutrient arteries get into the colon, and hence, the diverticula are more common on the mesenteric side of the colon. They are most commonly seen on the sigmoid colon [16,1]. Multiple theories were presented for diverticulosis pathogenesis, one of the theories advocated the reduced motility of the bowel segment as a common cause of increased diverticulosis incidence [17]. Cross sectional imaging play an important role in diagnosing or

confirming the diagnosis of diverticulosis and diverticulitis [18]. Treatment of acute uncomplicated diverticulitis is usually made on an outpatient basis with oral antibiotic therapy [19,20].

It's to the best of our knowledge the first reported case with diverticulitis in the neovagina post colovaginoplasty using a segment of sigmoid colon.

4. Conclusion

Knowing different types of gender transformation and neovaginal reconstruction operations and their expected outcomes is crucial for all medical doctors and radiologist in order to accurately manage the possible complications.

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