

Neovaginal diverticula: pathophysiology of colonic diverticulosis revisited

A 56-year-old transgender woman who had a history of intestinal neovaginoplasty with the use of a sigmoid segment visited our outpatient clinic for neovaginoscopy and colonoscopy as part of regular postoperative follow-up 31 years after sex reassignment surgery. She had been sexually active with one male partner for 25 years. The patient reported feeling frequent peristaltic movements of the neovagina during and after sexual intercourse. She had used estradiol as hormonal replacement treatment for 34 years, starting 3 years before sex reassignment surgery. Because of recurrent symptoms of neovaginal discharge and abdominal pain, multiple colonoscopic and neovaginoscopic procedures had been performed in the past, the last one 6 years before the current presentation. Only colonic diverticula had been observed.

At the outpatient visit, the woman again reported excessive neovaginal discharge. She dilated her neovagina weekly with a dilator. Endoscopic examination of the sigmoid-derived neovagina revealed a decreased vascular pattern with increased fragility of the mucosa, fitting an endoscopic diagnosis of diversion neovaginitis. Multiple neovaginal diverticula without concurrent inflammation were also observed (▶ **Fig. 1**, ▶ **Video 1**). Endoscopic inspection of the rectosigmoid revealed the previously observed diverticulosis. Colonic diverticula are observed at fragile sites of the muscular layer, such as where the vasa recta pass through the colonic wall. The precise pathophysiology of diverticulosis remains unclear. Fiber intake (either too much or too little) in the Western diet has been assumed to be one of the main factors in the development of colonic diverticulosis [1,2]. Increased intraluminal pressure also induces the formation of diverticula, especially at sites with the smallest radii, where the intraluminal pressure is highest (Laplace's law) [3]. Furthermore, structural alterations of the colonic muscular layer may lower its resistance to intraluminal pressure. For instance, collagen structure changes with age, making the colonic wall more rigid [4].

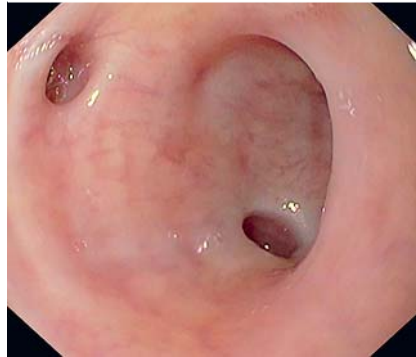
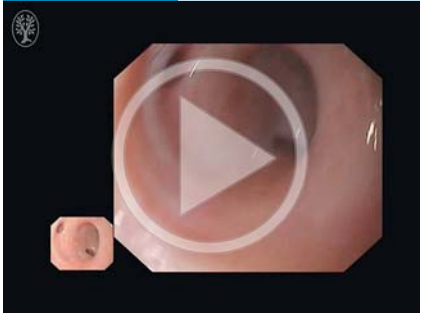


Fig. 1 Endoscopic examination reveals multiple diverticula without concurrent inflammation in the sigmoid-derived neovagina of a 56-year-old transgender woman.

Video 1



Endoscopic examination reveals multiple diverticula without concurrent inflammation in the sigmoid-derived neovagina of a 56-year-old transgender woman.

This case report provides evidence that a diet high or low in fiber may not be a key factor in the development of diverticula. Increased intraluminal pressure, in our patient's case caused by frequent sexual intercourse and perhaps dilation, as well as by degenerative processes and structural changes in the colonic wall due to age, may well be a more important risk factor for the development of diverticulosis.

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