

## Tension-free vaginal mesh operation for concomitant rectal and uterine prolapse: A case report



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### ARTICLE INFO

#### Keywords:

Pelvic organ prolapse

Rectal prolapse

Tension-free vaginal mesh operation

Uterine prolapse

### Introduction

Rectal prolapse is the protrusion of the mucosal layer or full-thickness layer of rectal tissue through the anal orifice. This anatomical and functional disabling condition has been reported since ancient times, but the cause of rectal prolapse remains unknown. Surgical therapy is most effective for the definitive treatment. Abdominal and perineal methods for surgery to treat rectal prolapse is common, but the most effective operation has not been established. We report herein a patient with pelvic organ prolapse (POP) with concomitant cystocele, uterine prolapse, and rectal prolapse, which was repaired by an anterior and posterior tension-free vaginal mesh (TVM) operation.

#### Case report

An 80-year-old Japanese woman who had voiding dysfunction and defecation disorder was referred to our hospital. She had three children through transvaginal delivery, and an unremarkable medical history. Her height, weight, and body mass index were 160 cm, 40 kg, and 15.6 kg/m<sup>2</sup>, respectively. The gynecological examination revealed cystocele and stage IV uterine prolapse, based on the POP-quantification staging system, and grade V rectal prolapse, based on the Oxford rectal prolapse grading system (Fig. 1). Magnetic resonance imaging (MRI) revealed a cystocele and uterine prolapse (Fig. 2), and defecography revealed no rectocele (Fig. 3). We chose surgical treatment for patients with POP whose stage, based on the POP-quantification staging system, was stage II with symptoms or higher than stage II. Her rectal prolapse was simultaneously repositioned when her uterine prolapse was pushed back

manually; therefore, we believed that an anterior and posterior TVM operation would be useful for correcting the uterine prolapse and the rectal prolapse.

In May 2017, the patient was admitted to our hospital for the operation. During the surgery, the uterine prolapse and rectal prolapse were manually repositioned in advance. First, a posterior TVM operation was conducted. An anterior TVM operation was then conducted conventionally with the patient under general anesthesia. The cystocele, uterine prolapse, and rectal prolapse were repaired. The post-operative period was uneventful. During 1 year of follow up after the anterior and posterior TVM, the cystocele, uterine prolapse, or rectal prolapse has not recurred.

### Discussion

Rectal prolapse is a condition in which the rectum protrudes beyond the anal sphincters. It occurs in less than 0.5% of the population and has a 9:1 female:male predominance.<sup>1</sup> The cause of rectal prolapse is unknown, but it is associated with risk factors such as pelvic floor dysfunction or weakness, connective tissue disorders, or high parity. Women with rectal prolapse may have concomitant uterine prolapse, vaginal prolapse, enterocele, rectocele, or cystocele. On the physical examination, a prolapse may be easily visible or appear with the Valsalva technique. Traditional defecography provides structural anatomic information. An MRI scan reveals additional pelvic floor abnormalities around the bladder or vagina.

Rectal prolapse is repaired mostly by abdominal methods or perineal methods. Abdominal methods (i.e., rectopexy) include open

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<https://doi.org/10.1016/j.eucr.2018.10.001>

Received 11 September 2018; Accepted 4 October 2018

Available online 09 October 2018

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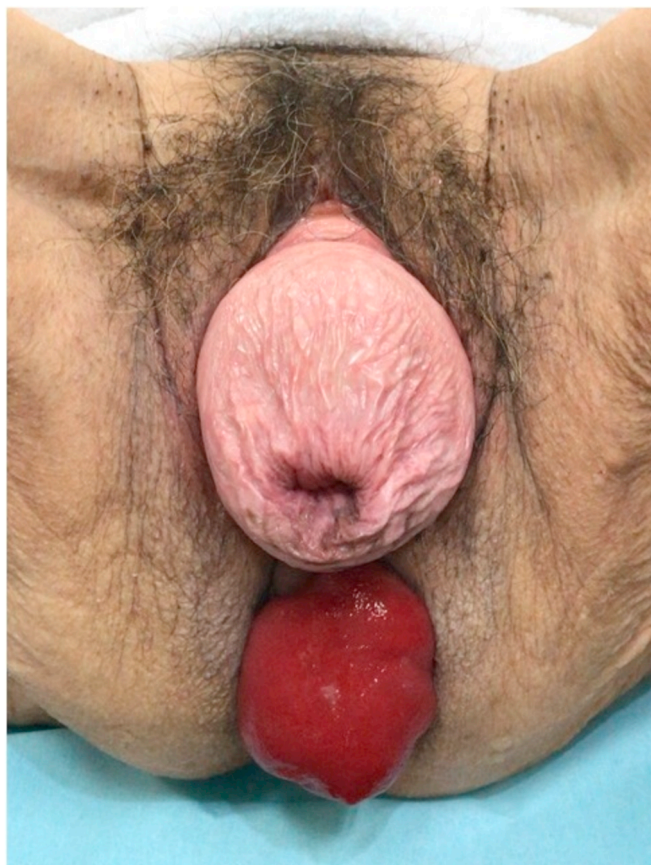


Fig. 1. Operative view. Concomitant stage IV uterine prolapse and grade V rectal prolapse.



Fig. 2. Magnetic resonance imaging shows a cystcele (arrow) and uterine prolapse (arrow head).

surgery, laparoscopic methods, and robotic methods. Perineal methods include perineal rectosigmoidectomy (e.g., Altermeier procedure), rectal mucosal sleeve resection (e.g., Delorme procedure), or anal



Fig. 3. Defecography demonstrates no rectocele.

encirclement (e.g., Thiersch procedure). The benefit of the abdominal methods is a lower recurrence rate; however, they require general anesthesia and are suitable for low-risk patients.<sup>2</sup> Perineal methods have a higher recurrence rate, but are minimally invasive surgeries, have lower operative morbidity, and (in men) present minimal to no risk of erectile dysfunction.<sup>3</sup> There is much debate over whether abdominal methods or peritoneal methods are best, but there is no consensus. Which approach is chosen depends on several factors such as age, comorbidity, a surgeon's experience and preferences, and equipment available.

Cases of concomitant rectal prolapse and uterine prolapse are uncommon. Umeh et al.<sup>4</sup> reported a 40-year-old woman who had open abdominal sacrohysteropexy. She was treated with a synthetic mesh for her uterine prolapse and rectopexy for her uterine prolapse. Karateke et al.<sup>5</sup> reported using colpocleisis to treat a 77-year-old woman and an 83-year-old woman for uterine prolapse, and using the Delorme operation and Thiersch operation for rectal prolapse.

To the best of our knowledge, the TVM operation has not been used to treat rectal prolapse. Therefore, this is the first report of repairing a rectal prolapse by a transvaginal method. The transvaginal method may be a useful option that urologists and urogynecologists can use to treat rectal prolapse in POP.

In conclusion, a case of concomitant rectal prolapse and uterine prolapse is rare. It is interesting that our present report is the first to describe a rectal prolapse coexisting with advanced uterine prolapse treated with a TVM operation.

**Conflicts of interest**

The authors have no conflicts of interest to disclose.

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