

## Malodorous vaginal discharge after pelvic surgery

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A 29-year-old female patient presented initially with symptoms of stress urinary incontinence occurring several times every day, for 4 years. She also reported symptoms of urgency and urge urinary incontinence and pelvic dragging. In the past she had 2 uncomplicated spontaneous vaginal deliveries and she suffered from asthma that was well controlled by medical treatment (bronchodilators by inhalation).

Physical examination revealed a moderate cystocele with paravaginal defects, a small rectocele, and a first-degree uterine prolapse. Urodynamic investigation showed urodynamic stress incontinence. As previous conservative treatment with pelvic floor exercises and physiotherapy had failed, she underwent a Burch colposuspension. The procedure and the recovery were uneventful and the stress urinary incontinence was cured.

Ten months after surgery the patient reported increasing pelvic dragging sensation. Clinical examination revealed a moderate rectoenterocele and 1st-2nd degree of uterine prolapse with an elongated cervix and a small high cystocele. The patient underwent a Manchester procedure with repair of cystocele using a polypropylene mesh (Prolene). The uterus was also suspended by the posterior IVS (intravaginal slingplasty) technique. Pelvic organ prolapse symptoms were subsided.

However, the patient noted an offensive vaginal discharge 3 months after the second operation and she reported an episode of light vaginal bleeding. Examination revealed a large mesh erosion of the anterior vaginal wall (2x3cm) (Figure 1) and 2 small erosions of the IVS tape on the posterior vaginal wall. The uterus and the vaginal walls were well supported.

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### Diagnosis

A vaginal swab from the area of the exposed mesh was taken and the culture revealed growth of *Bacteroides melaninogenicus*. The patient was treated with antibiotics (per os metronidazole 500 mg every 8 hours and doxycycline 100 mg every 12 hours for 10 days) and the exposed part of the mesh was removed surgically during the fourth day of the antimicrobial treatment. The patient did not note any vaginal discharge after this operation. However, another part of the mesh was observed during physical examination 4 weeks later without any accompanying symptom that was also removed. Three months after the last procedure the vaginal wall was healed, but was significantly indurated. No recurrence of the infection was noted during 12 months of follow up. Nevertheless, she continued to avoid intercourse due to severe dyspareunia.

### Teaching points

The use of vaginal meshes for the management of patients with pelvic organ prolapse has recently become common in several parts of the world. However, several complications associated with this procedure may occur which may be either non-infectious or infectious as it happens with the use of meshes for the repair of the various types of abdominal hernia. [1, 2] The most common non-infectious complications are seromas, adhesions, chronic severe pain, and non-infectious erosion or rejection of the mesh.

Vaginal mesh-related infections are an emerging type of infections in the field of gynecology. The incidence of vaginal mesh-related infections varies depending on various factors including the material used. In the case of polypropylene meshes, such as the one used in our patient, the incidence of infections ranges from 0% to 2.6% in recent studies with the majority of them reporting no infection. [3, 4] Although erosion of the vaginal wall by the mesh occurs more commonly (up to 20% of cases depending on the material of the foreign body), [5] it is not clear whether it always has an infectious etiology.

Clinical manifestations of vaginal mesh-related infections usually occur within the first postoperative year. The most common symptoms and signs are the sensation of pelvic dragging or unspecific pain, vaginal discharge which may be purulent or hemorrhagic, induration of the vaginal incision, the formation of vaginal granulation tissue, erosion of the vaginal wall, and rejection of the mesh. [6, 7, 8] The most common pathogens implicated in vaginal mesh-related infections are *Staphylococcus aureus* and coagulase-negative *Staphylococcus* species. However, several other microorganisms have been isolated from the vagina in patients with mesh-related infection and our case report expands the relevant list. [9]

The suggested management of patients with mesh-related infections is a combination of administration of appropriate antimicrobial agents and surgical intervention; in addition, local estrogens may be needed for postmenopausal women with vaginal atrophy. The empirical antimicrobial treatment should include agents with at least anti-staphylococcal activity [1]. The results of the microbiological studies will further dictate possible modifications of the antimicrobial treatment. Surgical intervention includes either trimming of the eroding part of the mesh or total removal of it. Trimming of the mesh can be combined with rejuvenation of the surrounding tissues along with vaginal mucosal closure over the defect. Several sessions might be necessary as mesh erosions could subsequently occur in other areas of the vaginal wall. Total removal of the mesh could be technically extremely difficult and increases the risk of trauma to the surrounding pelvic organs. However, this is necessary and may also be performed with less difficulty, when the mesh is overtly infected. It should be emphasized that another factor that influences the ease of the removal of the mesh is the diameter of its pores that affects the degree of tissue in-growth.

In conclusion, the use of prosthetic materials in pelvic reconstructive surgery in women with pelvic organ prolapse has recently gained popularity with the aim to improve long-term vaginal support and to maintain adequate vaginal capacity necessary for sexual intercourse. However the use of such materials in young sexual active women should be cautious and patients should be informed about the possible infectious and non-infectious complications that could interfere with their sexual life.

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