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Case Report

Complete labial fusion causing urinary retention in a postmenopausal woman

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Abstract: Labial fusion or labial adhesion can rarely be encountered postmenopausal and may be diagnosed in advanced stages especially in sexually inactive women. It may be a rare cause of voiding dysfunction or urinary retention. We present a case of a postmenopausal woman presenting with urinary retention due to complete labial fusion. The patient was treated both with topical estrogen and surgical separation of labial fusion. No recurrences developed after the procedure. Topical estrogen treatment may not resolve adhesions in postmenopausal women and invasive procedures may be necessary to resolve urinary retention.

Keywords: Labial adhesion, labial fusion, menopause, urinary incontinence, urinary retention

Introduction

Labial fusion, also known as labial agglutination or labial adhesion is the partial or complete adherence of labia minora and may rarely be encountered in postmenopausal women with an unknown incidence. The exact cause is unknown; but low estrogen levels associated with menopause, chronic vulvar inflammation, and sexual inactivity have been suggested in the pathogenesis [1]. In addition, malignancy, lichen sclerosis, radiotherapy, and topical medications may cause vulvar adhesions in later decades of life [2].

Patients with complete labial fusion may present with voiding difficulty, incomplete emptying, urinary retention, urinary frequency, urinary incontinence, and vulvar irritation [3]. However, these symptoms are not specific to labial fusion and may lead to misdiagnosis. Lu et al. described a case of postmenopausal labial agglutination resistant to topical estrogen treatment and mimicking urinary incontinence with vulvar leukoplakia and vaginal low grade squamous intraepithelial neoplasia [3].

Here we report a case of complete labial fusion causing voiding dysfunction, urinary retention and post-void dribbling in a postmenopausal woman, with no underlying gynecologic anomaly, that is treated surgically.

Case

A 75-year-old postmenopausal woman presented with voiding symptoms such as hesitancy, poor stream, intermittent flow, straining during micturition, and post-voiding dribbling for the last three months. She had no previous history of urinary incontinence or pelvic organ prolapse. She had been postmenopausal for 27 years and was sexually inactive for 18 years. She had a history of one uncomplicated vaginal delivery, hypertension, and breast cancer cured with mastectomy and 23 sessions of radiotherapy.

Her genital examination revealed complete fusion of the labia minora caused by a dense fibrotic band obscuring the vestibule, vagina, and urethral meatus with a tiny opening on the lower one-third of the fusion from where urine passed [**Figure 1A**]. No vulvar lesions suspicious of malignancy or lichen sclerosis were observed. Uterus, cervix, and ovaries were found normal on pelvic ultrasonography. Later the patient was observed during micturition.

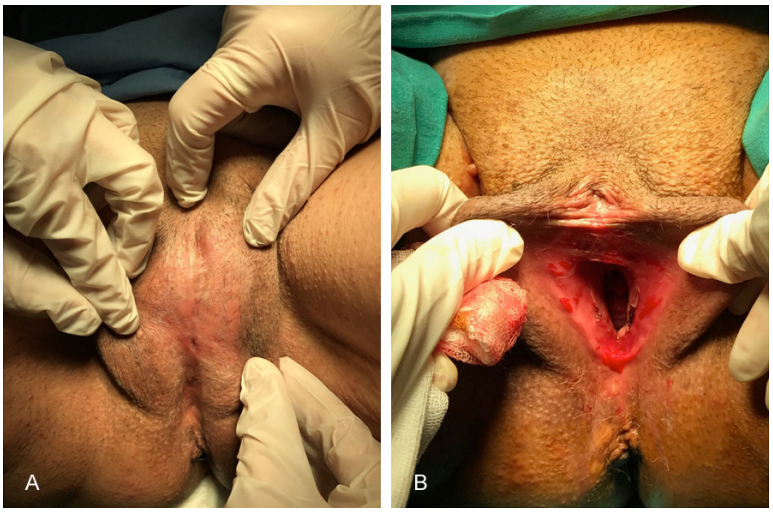

Figure 1. A. The appearance of the case during presentation. B. The appearance of the case after surgery.

Fused labia minora would not let urine flow and formed a balloon-like image. Afterward, the urine in the vagina passed out through the tiny hole on the dense fibrotic fusion area. Urinalysis, renal function tests, urine cultures, and renal ultrasonography obtained to exclude upper urinary tract pathology were found normal. Labial fusion was resistant to topical estrogen treatment therefore surgery was planned.

Under general anesthesia, fused labia were separated with blunt dissection and cautery when needed [**Figure 1B**]. No bleeding or complications were developed during the procedure. After the labia were separated, the urethral meatus and the vagina could be explored and no pathologies were encountered. The patient was catheterized for 24 hours postoperatively and then was discharged with topical estrogen treatment for two weeks.

At the six-months follow-up, patient had no complaints during micturition and no recurrent labial fusion was observed.

Discussion

Although postmenopausal women with labial fusion may be asymptomatic and present with only labial fusion; patients may also present with urinary symptoms such as dysuria, frequency, urgency, urinary incontinence straining to void, slow urinary stream, incomplete emptying, recurrent urinary tract infections, urinary retention and dyspareunia if sexually active [4]. Urinary incontinence develops due to the collection of urine in the vagina and leakage of the urine through a hole in the adhesion which is also defined as 'pseudoincontinence' [5]. Incomplete emptying and urinary retention may lead to recurrent urinary tract infections and upper urinary tract diseases [2]. In addition, labial fusion may obscure symptoms such as vaginitis, vaginal bleeding and vaginal mass and upper genital tract diseases [4].

Diagnosis is easily made with physical examination. Labia majora are fused in the midline with a filmy or thick pearly membrane in the middle of the fusion, which may be partial or total. The thickness of the membrane varies from case to case.

Treatment is usually topical estrogen application and separation under general anesthesia when needed [4]. Management options reported in the literature are summarized in **Table 1**. Kaplan et al. reported two postmenopausal women treated with nonsurgical separation of complete labial fusion using Hegar dilator under general anesthesia [1]. Dirim and Hasirci reported the release of labial adhesions by sharp dissection and approximation of the defects using polydioxanone sutures under general anesthesia [6]. Singh and Han, in their series of 6 cases, reported using uterine sound and blunt separation in one case, manual separation with local anesthetics in one case and surgical separation under general anesthesia in 4 cases [4]. Hatada et al. performed a two step surgical approach using cervical dilators and curved forceps [7]. To prevent recurrences, Johnson et al. suggested performing full thickness flap grafting [8]. In our case, we showed that separation of the labia is possible with the combination of blunt dissection and cautery with no need for sutures, and no complications were observed during the 6 months follow up.

No recurrences developed in our case, although the recurrence rate is reported to be 14-20% [4]. Daily massage, topical estrogen, lubricants

Table 1. Management in the literature summarized

	Technique	Number of Cases	Complications/ Recurrence	Post Procedure Treatment	Follow-up
Kaplan et al.	Hegar dilators	2 cases	No complications or recurrence	Topical estrogen	12 months
Hatada et al.	Two step surgical approach with cervical dilators and fine curved forceps	1 case	No complications or recurrence	Topical, oral and vaginal estrogen	8 months
Johnson et al.	Rotational full thickness skin flap to prevent recurrences	1 case	No complications or recurrence	None	3 weeks
Dirim and Hasirci	Blunt dissection and approximation with sutures	1 case	No complications or recurrence	Topical estrogen	2 weeks
Sing and Han	-uterine sound with local anesthesia -manual seperation with local anesthesia -surgical seperation with general anesthesia	6 cases	No complications or recurrence	Topical estrogen	1 month

or antibiotics have been advocated to prevent recurrence after surgical separation [4]. We administered topical estrogen treatment after the procedure to aid in the healing process and prevent any recurrence.

In conclusion, postmenopausal labial fusion is a rare cause of voiding dysfunction or urinary retention, which is diagnosed in advanced stages especially in sexually inactive women. Topical estrogen treatment may not resolve adhesions and surgery may be necessary to cure the symptoms.

Disclosure of conflict of interest

None.

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