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CLINICAL OPINION

Labial adhesions in postmenopausal women: presentation and management

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Abstract

Labial adhesion is defined as complete or partial fusion of the labia minora in the midline through flimsy or dense adhesions. It may be congenital or acquired. Acquired cases are mainly seen in oestrogen deficiency states in prepubertal girls and postmenopausal women. Aggravating factors include chronic inflammation due to poor hygiene, eczema, lichen planus or sclerosus, seborrhic dermatitis, eczema, local trauma and recurrent urinary tract infections. Patients may be asymptomatic or present with urinary or vulval symptoms. Management in mild cases includes the application of topical oestrogen with or without topical steroids. If there is no response to topical therapy, surgical separation under anaesthesia should be performed. Herein, we report six cases of complete labial fusion in postmenopausal women who presented to our clinic with various urinary and vulval complaints. The mean age of these patients was 76 (range 61–85) years.

Keywords Labial · Adhesion · Vulva · Urinary

Introduction

Labial adhesion is defined as complete or partial fusion of the labia minora in the midline through flimsy or dense adhesions [1, 2]. It may be congenital or acquired [2, 3]. It is a condition comparable to phimosis in males [2]. Congenital cases have been reported in conditions such as congenital adrenal hyperplasia and intrauterine exposure to exogenous androgens. Acquired cases are mainly seen in oestrogen deficiency states in prepubertal girls and postmenopausal women. Its incidence in prepubertal girls has been reported to be 0.6 to 5% with the peak incidence between 13 and 23 months of age. More than 90% of the cases are seen in girls below 6 years of age [3–6].

Aggrevating factors include chronic inflammation due to poor hygiene, eczema, lichen planus or sclerosus, seborrhic dermatitis, eczema, local trauma or recurrent urinary tract infections [1, 2, 6, 7]. Low oestrogen levels and absence of sexual activity also contribute to formation of adhesions. Denudation of the surface epithelium occurs as a result of long standing inflammation, leading to fusion of the labia during the healing process [4, 6]. Postmenopausal women with hip joint disease may be at increased risk due to difficulty in maintaining perineal hygiene and reduced or absent sexual activity [8, 9].

Herein, we report six cases of complete labial fusion in postmenopausal women who presented to our clinic with various urinary and vulval complaints. The mean age of these patients was 76 (range 61–85) years (Figs. 1, 2, 3, 4, 5, and 6).

Case series

Our first patient with this condition was an 85-year-old parous female who presented to our clinic with the complaint of closure of the vaginal opening. She had no urinary complaints. On examination, there was complete labial fusion and a high post-void residual urine of 309 ml. An ultrasound of the kidneys and urinary bladder showed mild right pelviectasis and a dilated proximal right ureter. She was counselled for lysis of the labial adhesions to which she consented. During the procedure, the labia minora were found to be completely fused from the posterior fourchette to the clitoris except for a 5 mm opening near the posterior fourchette. This opening was probed using a uterine sound and the adhesions were bluntly separated along the line of fusion (central raphe). The patient was advised to use vaginal oestrogen cream and dilate the

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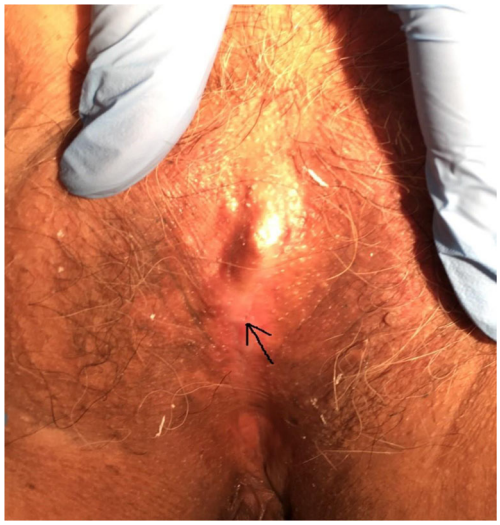

Fig. 1 Complete labial fusion with flat appearance of the vulva and a pinpoint opening near the posterior fourchette

vagina digitally regularly after the procedure. She was able to void with minimal residual urine after the procedure and a repeat ultrasound of the kidneys 1 month after the procedure showed resolution of the right-sided pelviectasis.

Four patients presented with predominant overactive bladder symptoms. The first among them was an 85-year-old parous female with complaints of poor urinary stream, straining to void, urinary urgency and urge incontinence for 1 year. On examination the labia minora were completely fused. Erythema and excoriation of the vulval skin with lichen sclerosus lesions were noted. The second patient was an 82-year-old virgo intacta with complaints of poor urinary stream, sensation of incomplete voiding, post-micturition dribble, urinary urgency, nocturia and urge incontinence for 1 year. She also complained of swelling of the external genitalia while passing urine and had complete labial fusion on examination. The next patient was a 61-year-old parous female with the complaints of the vaginal opening getting smaller for 2 months and urinary urgency, urge incontinence, straining to void, poor

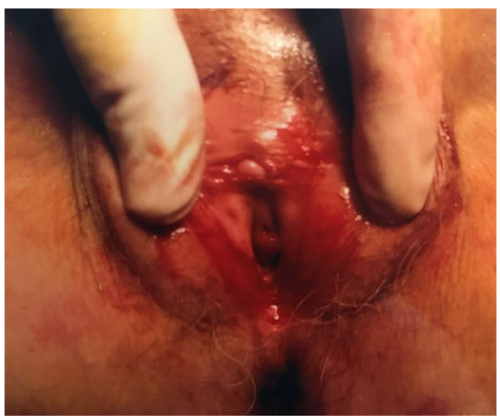

Fig. 2 Appearance of the vulva after surgical separation of labial adhesions

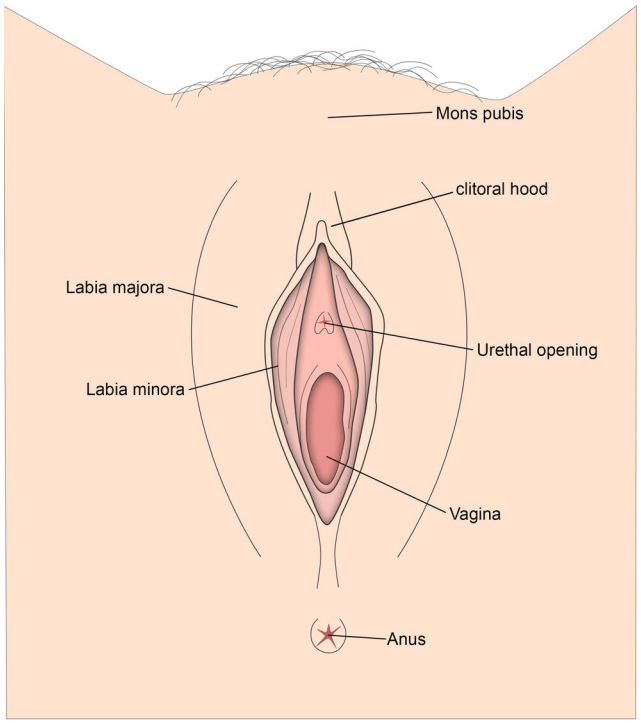

Fig. 3 Normal vulval anatomy

urinary flow and post-micturition dribbling since then. On examination, she was noted to have complete labial fusion with vulval erythema and lichen sclerosus lesions. The fourth patient was a 67-year-old parous female who complained of vaginal soreness, straining to void, poor urinary stream and

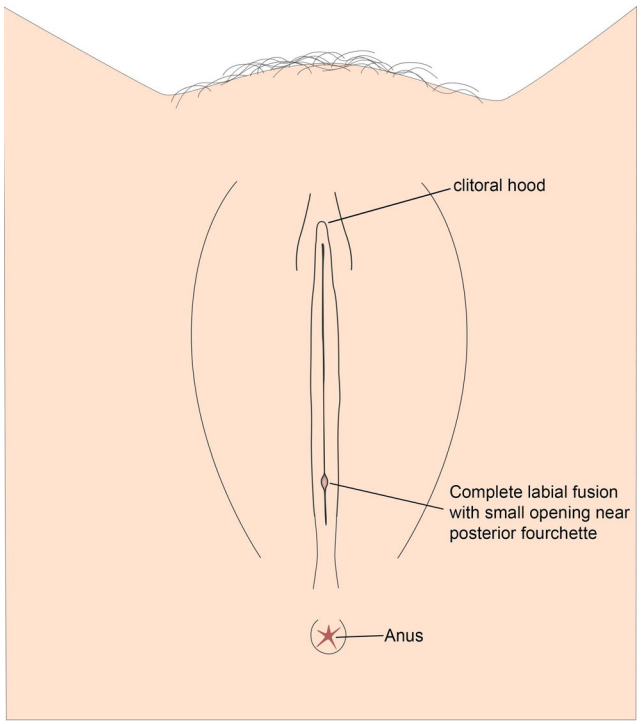

Fig. 4 Complete labial fusion

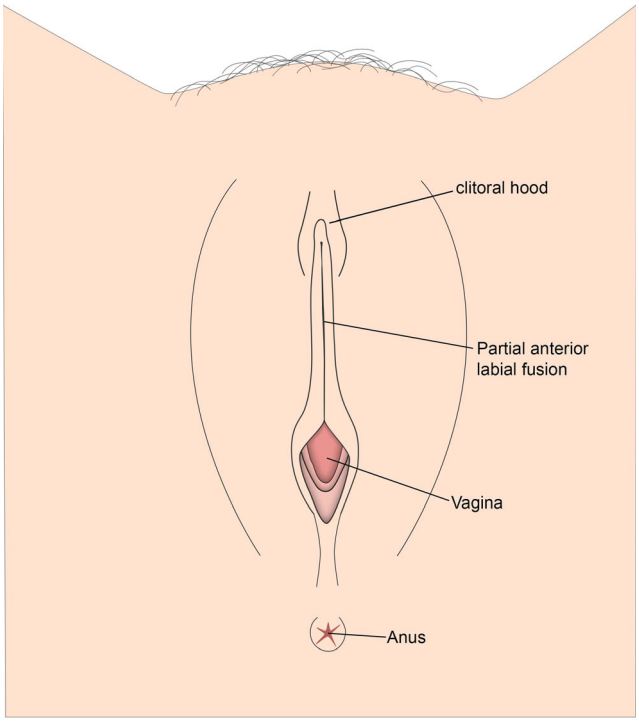

Fig. 5 Partial anterior fusion

post-void urinary dribbling for 6 months. She had complete labial fusion on examination.

All four patients were initially offered conservative management with oestrogen and steroid creams but had no improvement in symptoms on review and underwent adhesiolysis under anaesthesia. At the 1-month follow-up visit post procedure, all four reported resolution of urinary symptoms.

The sixth patient was a 76-year-old parous female with complaints of a vulval lump for a few months. She had no urinary complaints. On examination, she had complete labial fusion but the adhesions appeared flimsy and could be separated manually in the clinic 10 min after application of topical 2% lignocaine jelly.

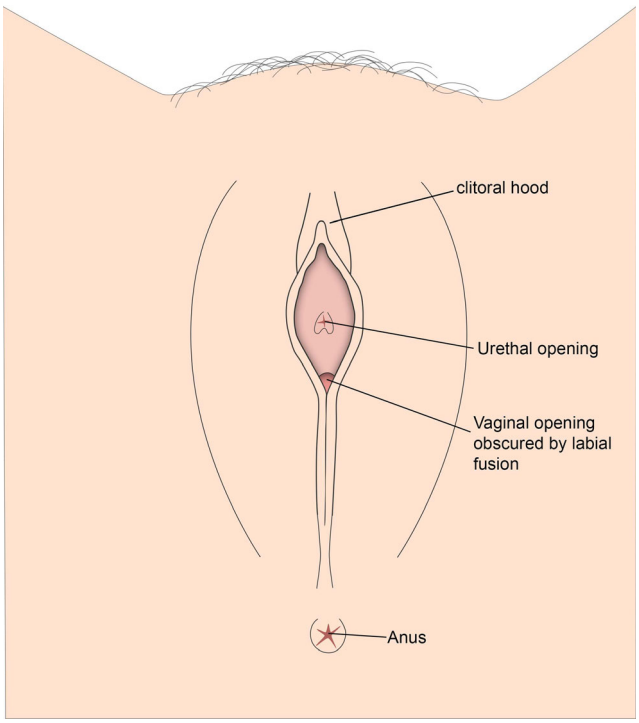

Fig. 6 Partial posterior fusion

Discussion

Labial adhesions may be asymptomatic or present with urinary or vulval complaints. Urinary symptoms include dysuria, frequency and urgency of urination, straining to void and poor urinary stream, sensation of incomplete emptying, postmicturition dribbling, incontinence, enuresis, urinary retention and recurrent urinary tract infections [3, 6, 8–12]. Vulval symptoms include vulval itch, soreness, pain, dyspareunia or apareunia, vaginal discharge and pseudocyst formation [12–14]. Patient may also describe a popping sensation in the vulva on coughing or sneezing [10].

The urinary incontinence resulting from labial fusion occurs because of collection of urine in the vagina leading to urocolpos formation. Urine leakage occurs through the point of least resistance along the line of fusion. This collection is emptied upon separation of the fusion leading to quick resolution of incontinence—hence known as pseudoincontinence [4–6, 15–18]. The pooled urine may cause ascending infections above the line of fusion [14]. Rare complications such as peritonitis, pyosalpinx and renal damage due to urinary tract obstruction and recurrent urinary infections have been reported in the literature [11, 15].

On examination, the labia typically appear flat with loss of elasticity and presence of a vertical midline membrane or raphe, which may be flimsy or thick [14, 19]. It usually starts at the posterior fourchette and advances toward the clitoris. Unlike the paediatric cases where usually only the labia minora are involved in the fusion, the labia majora may also be involved in postmenopausal patients. Fusion of labia impairs full gynaecological examination and may impede diagnosis of gynaecological malignancies as it may mask symptoms such as vaginal bleeding and palpable masses [16, 19, 20]. Assessment of renal function and imaging of the urinary and genital tract may be necessary in some cases to look for complications due to obstruction of the urinary and genital tracts [21].

Management in mild cases includes the application of topical oestrogen. Topical steroids (betamethasone, clobetasol 0.05%) can be prescribed in inflammatory conditions such as lichen planus or sclerosus. Mayoglou et al. compared topical oestrogen and betamethasone cream in 151 prepubertal girls with labial adhesions. They concluded that bethamethasone

may separate adhesions more quickly with less recurrence and fewer side effects than topical oestrogen [22]. If there is no response to topical therapy, surgical separation under anaesthesia should be performed [6].

The labia can be separated by blunt or sharp dissection along the line of fusion under anaesthesia to expose the vagina and urethral meatus [6]. Separation using serial Hegar dilators to decrease trauma has also been described [4]. Hatada et al. described a two-step surgical approach in which cervical dilators are introduced through the opening to separate the lower portion of the fusion followed by separation of the remaining adhesions from the inside using fine curved forceps [23]. This method decreases the risk of recurrence by avoiding sharp dissection. Fakheri et al. described blunt dissection of adhesions using cautery aiming to decrease blood loss and scarring [24]. Punch biopsy of vulval inflammatory lesions can be taken if deemed necessary at the time of surgical separation [6, 10]. The raw skin and mucosa around the separated labia can be approximated using 3–0 or 4–0 vicryl sutures to bury the denuded areas and reduce the risk of recurrence [1, 10, 16]. In intractable cases, additional measures may be taken to prevent recurrence. These include silicon film or hydrocolloid dressing application to the raw area after separation or rotational full thickness skin flap grafting from the thigh as described by Johnson et al. [1, 5, 25] Topical antibiotic creams may be used postoperatively to reduce the risk of infection [1, 26].

Recurrence of adhesions occurs in 14–20% of patients who have undergone surgical or manual separation; hence it is important to emphasise the importance of oestrogen cream application and regular digital separation of the vulva, especially in patients who are not sexually active [6, 26].

Conclusion

Labial adhesion is rare in postmenopausal women and can present with nonspecific urinary or vulval complaints. It is easy to diagnose and treat with local oestrogen creams or surgical separation.

Compliance with ethical standards

Conflicts of interest None.

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