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Case Report

Complete Labial Adhesion of a Young Pubertal Girl: A Case Report

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ABSTRACT

Due to the abundance of estrogen, labial adhesion is extremely rare at reproductive age. Herein we present a case of complete labial adhesion with acute retention of urine of a 13-year-old virgin girl secondary to vulval trauma. Her labia were fused completely in the midline, starting from the posterior fourchette covering the clitoral hood. Surgery was done under general aneasthesia and the fused labia were released. Postoperative follow up was uneventful.

Keywords: *Labial Adhesion, Labia Minora, Estrogen.*

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INTRODUCTION

Labial adhesion is defined as either partial or complete adherence or fusion of the labia minora in the midline[1]. It is most common in infants and pre-pubertal girls and is usually associated with low estrogen levels[2]. In reproductive age, it is extremely rare due to abundance of estrogen. Vaginal inflammation, irritation, hypoestrogenism, local trauma, lack of sexual activity, female circumcision, vaginal lacerations and recurrent urinary tract infections have previously been identified as the contributing factors for labial adhesion in women of reproductive age[1,3]. Furthermore, labial adhesions could be idiopathic, without any evidence of the above[4]. The majority of the cases are asymptomatic. Rarely, they may present with urinary incontinence, urinary tract infection, vaginitis, hematuria, dysuria or dyspareunia[1,2]. We describe a case of complete labial adhesion in an adolescent girl who presented with acute retention of urine and its management.

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CASE REPORT

A 13-year-old virgin girl was admitted to the Paediatric Surgery ward with lower abdominal pain, abdominal distension and retention of urine. She had been unable to urinate in the previous 12 hours. She had H/O trauma to the vestibule one and a half years ago, which was managed conservatively. Since then, she has been suffering from urinary symptoms in the form of a burning sensation, frequency and poor flow. Her menstrual cycle has been regular since menarche (At the age of 12 years old), but complains of decreased flow during menses and pain in her lower abdomen. There was no history of surgical intervention, sexual abuse or no complaints of irritation or allergic rash in the labia. The patient was treated as an UTI several

times by paediatricians and medicine specialists. On examination, she had normal secondary sexual characteristics. Examination of the genital area showed complete adhesion of the labia minora in the midline starting from the posterior fourchette, covering the clitoral hood completely. Urethral and vaginal openings were not visualised (Figure-1). The perineum was normal. Dermatological examination of the vulva was unremarkable. Her lower abdomen was distended, tender. The urinary bladder was palpable. DRE revealed normal findings. Initially, urethral catheterization was tried but failed due to extensive adhesion of the labia and pain. Urinary retention was relieved by supra-pubic puncture. Pelvic ultrasound and laboratory work-up were normal. Surgery was done under general anaesthesia (G/A). A small space was obtained from the weakest point of the adhesion with a small artery forceps through which whitish vaginal secretions came out. The labia minora were completely separated along the translucent line of adhesion by electrocautery. The vaginal opening and the urethral opening were identified. A urethral catheter was kept in situ. Released edges were repaired by interrupted suture with absorbable suture materials (Figure-2, Figure-3). The postoperative follow-up was uneventful and the patient was discharged on the 3rd postoperative day. Patient was advised to keep the wound clean and application of steroid based cream twice daily for 6 weeks. The patient was followed up on the 15th postoperative day and in the 2nd month and there were no symptoms or signs of complications.

Figure-1: *Complete fusion of the labia minora with obliteration of the vaginal introitus and urethral meatus.*

Figure-2: *Per-operative view of sutured edges of released adhesions.*

Figure-3: *Post-operative view of sutured edges of released adhesions.*

DISCUSSION

Labial adhesion, also known as labial/ vulvar agglutination, fused labia or vulvar fusion. It is a common paediatric gynaecological problem encountered in general paediatric practice and is associated with low estrogen states[2,5]. Labial adhesions can affect 0.6%-5% of babies aged 3 months to 6 years, with a peak incidence of 13-23 months[6]. But this is a rare clinical entity in adolescents. Only a few cases have been reported in the literature, and these cases occurred predominantly in post-menopausal women rather than at reproductive age[3,7,8].

The exact aetiology of labial adhesions is unknown but is thought to develop secondary to vulvar inflammation in a low estrogen environment. This is why it is uncommon in the immediate newborn period (A period of maternal estrogen exposure) and in post-pubertal females (When women make their own endogenous estrogen[2,5]. The outer surface of the labia minora is thin, delicate and lined by squamous epithelium. Irritation and inflammation of the vulva makes the outer skin raw which then heals together in the same way as any skin cut margin heals and leads to labial adhesion.

Sexual abuse or genital trauma has also been implicated as a major causative factor in various reports on older girls. Other causative factors of labial adhesion in adults include recurrent urinary tract infections, vulvovaginitis, atopic dermatitis, herpes simplex, female circumcision, genital trauma, hypoestrogenism and lack of sexual activity[1,3]. We can exclude hypoestrogenemia as the cause of labial adhesion in our patient with a history of regular menses, normal ovaries at ultrasound and normal gonadotrophin values. But she gave a history of genital trauma, which may be a cause of labial adhesion in the reproductive age group.

Labial adhesions are often asymptomatic and are missed easily. If asymptomatic, they may be noticed during a routine gynaecologic examination or incidentally by parents. In other cases, patients may present with symptoms of UTI such as dysuria, urinary frequency, refusal to urinate or post-void dribbling. Some patients present with symptoms of vulvovaginitis such as vulvar erythema, vulvar pruritus, vulvar pain and vaginal discharge due to pooling of urine in the vulval vestibule or vagina[1,2,9]. In severe cases, labial adhesions can cause complete obstruction of the urethra, leading to urinary retention[10]. Our patient presented with symptoms of recurrent UTI and acute retention of urine.

Diagnosis of labial adhesion is made by visual inspection of the external genitalia. Usually, the labia start to fuse at the bottom (Posterior fourchette) and work up towards the clitoris. The adhesion will appear as a white/ gray midline raphe between the labia minora. The degree of the adhesion varies from a small portion to the entire length of the labia minora, and the vaginal opening may be partially or completely occluded. Rarely, the urethra is obscured. Even with extensive labial adhesions, the inability to void is rare. In our case, the urethral meatus was obscured and the patient was unable to urinate.

Treatment depends on the symptoms and severity of adhesions. If there is no complaint or complication, the adhesions do not need treatment. Assurance of the parents and maintenance of hygiene is enough. Most patients will have spontaneous resolution of their adhesions at puberty when they begin to produce endogenous estrogen.

In mild forms of adhesion, topical estrogen therapy is usually sufficient. Application of conjugated estrogen cream or estradiol vaginal cream (0.01%) twice daily for four to six weeks separates as many as 50% - 89% cases. An alternative to estrogen therapy is topical betamethasone (0.05%). Steroids can be considered in cases of recurrent adhesions or patients with failed estrogen therapy. Transient side effects include erythema, pruritus, folliculitis, skin atrophy and fine hair growth[8].

Patients with dense, fibrous adhesions with significant symptoms (Such as urinary retention) or cases of failed medical therapy should be managed by manual lysis under tropical anaesthesia. Surgical adhesionlysis under G/A may be needed in 5% to 11% of cases[8]. After the procedure, it is necessary to apply topical estrogen cream to prevent recurrence. In the present case, because of the tight adhesion of the labia, manual separation was not possible and the ultimate choice of treatment was surgical intervention under G/A.

The recurrence rate of labial adhesions is 11-14%[11]. Risk factors for recurrent adhesions are younger age, thicker adhesions, poor vulvar hygiene, recurrent genital infections, trauma and dermatologic conditions. Recurrent adhesions are managed in the same manner as initial adhesions.

CONCLUSION

Labial fusion is a rare event in pubertal women. A thorough clinical examination is enough for diagnosis. Optimizing vulvar hygiene and parents/ patient education are important to reduce the risk of recurrence.

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