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Management of Labial Adhesion of Childhood: A Case Report at Rural General Hospital

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Abstract **Case Report**

Labial adhesion is a common gynecologic problem in childhood. It is defined as fusion of the labia minora in the midline or are termed vulvar adhesions when they occur below the labia minora. Although they frequently show no symptoms, patients may come with genitourinary problems such as post-void dripping, vaginal irritation, dysuria, urinary tract infection or obstruction. When a patient shows no symptoms, conservative care is the cornerstone of treatment, along with parental reassurance and close attention to vulvar hygiene. Topical therapy with estrogen and/or steroid cream is frequently beneficial for symptomatic individuals. Recent advancements in surgical techniques have demonstrated favorable outcomes in managing labial adhesion. Among these, the application of the Heineke-Mikulicz suturing technique has emerged as an effective minimally invasive approach. Hence, follow up of these children is important to ensure complete resolution without residual adhesion or recurrence.

Keywords: Labial adhesion, topical treatment; estrogen; steroid cream; children.

INTRODUCTION

In the first few years of life, labial adhesions, also known as vaginal synechiae, afflict around 2% of females. The incidence itself peaks in the second year of life. However, many individuals with this disorder have no symptoms and may go undiagnosed, its frequency might be substantially higher [1]. While the exact cause of labial adhesion remains unknown, it is most likely related to the female infant's hypoestrogenic condition [2, 3]. In these cases, urine passes via a tiny opening superiorly through which the labia minora stick together in the midline, generally from the posterior fourchette, and this results in labial adhesion [3].

Labial adhesions are usually asymptomatic, but they may cause symptoms such as urinary tract infection and pain during activity, post- void dripping, and abnormal urinary stream [2, 4]. Labial adhesion may also present as urinary retention [5].

Young girls should be administered estrogen cream to be put on the labia for several weeks. Eighty percent of cases dissolve on their own after a year of diagnosis, although many doctors recommend topical therapy using adhesiolysis or estrogen cream, which should be administered to the labia for two to three weeks [6, 7]. Here, the treatment of one girl with labial adhesions was presented. In addition, we would like to remind you this problem with the literature review.

Case 1

A 2-year-old baby girl was brought by her parents with chief complaint of poor urinary steam for the past four days. The child was active alert and otherwise well. On examination, the labia majora were completely fused concealing the labia minora and the urogenital openings (Fig 1).

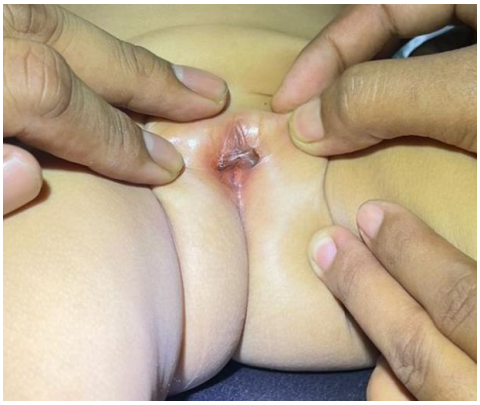

Fig 1: Complete adhesion of labia

Under the anesthesia, labial fusion was released successfully. The result showed a clear visualization of the urethral meatus and the vagina (Fig 2).

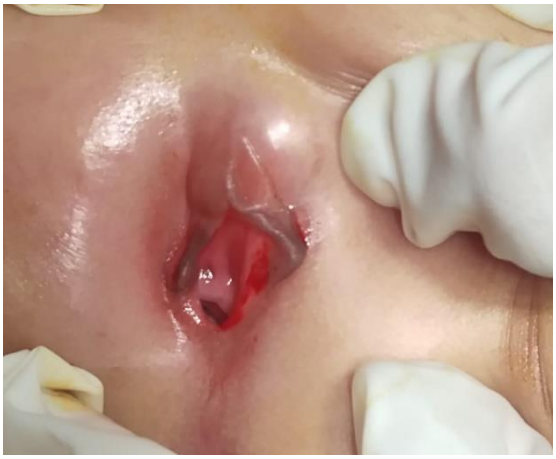

Fig 2: Post-surgical of labial adhesion

Treatment was continued with topical vaseline application for couple of weeks. There was no recurrence at follow up beyond several months.

DISCUSSION

In general paediatric treatment, labial adhesions are a frequent gynaecological issue in children and are linked to low estrogen levels. They frequently receive incorrect diagnoses, or unnecessarily investigations may be ordered [8, 9]. Although vaginal voiding or postvoid dribbling, related urinary tract infections, and pain after voiding are relatively uncommon, labial adhesions are often asymptomatic [10–12]. A physical examination may reveal thin, white, semitranslucent adhesions covering the vaginal opening between the labia minora. Moreover, the adhesions may sometimes close the vaginal opening entirely [10-14] (Fig 3).

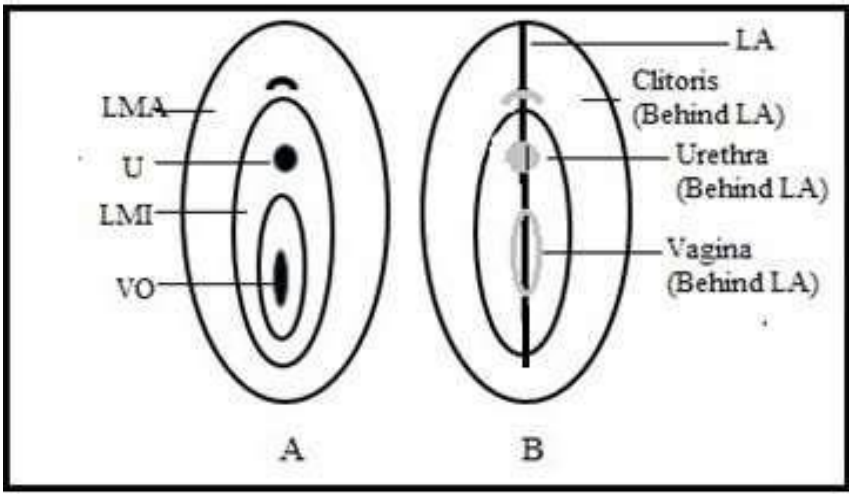

Fig 3: A) Normal anatomy; B) Complete labial adhesion

LMA: Labia majora; U: Urethra; LMI: Labia minora; VO: Vaginal opening; LA: Labial adhesion

The following conditions need to be considered when making a differential diagnosis: Hymenal skin tags, imperforate hymen, vaginal atresia or müllerian agenesis, vaginal rhabdomyosarcoma, ureterocoele, urethral polyp, urethral prolapse, and introital cysts (paraurethral or Gartner duct cysts) [10-14].

Applying oestrogen cream to the labia three times a day for three to four weeks is the treatment for labial adhesions [9]. Success rates for this treatment typically range from 66% to 100% when it comes to labia opening with minimal recurrence [1]. Out of 150 females, three investigations conducted in the 1970s found that 88% to 100% of them were successful in opening their labia, with very little recurrence [15-17].

In a Turkish research, 49 females had a 66% success rate [7]. Seventy-nine percent of the 107 patients in another trial reported effective separation; however, over forty individuals experienced recurrence and required further treatments [18]. With 262 females, it was the biggest retrospective research to date and the

only one to reveal a success rate of less than 50% with estrogen [19].

In a recent trial, 131 children with labial adhesions were given topical estrogen cream alone, topical betamethasone cream alone, or a combination of the two for an average of four weeks [20].

There were no statistically significant differences between the groups, estrogen cream is just as effective as topical steroid cream. The price and accessibility of estrogen cream are noteworthy. In actuality, topical Vaseline cream works just as well for managing this condition following adhesiolysis. Patients with urinary tract infections, patients with significant adhesions, or failures to separate should be treated with topical anesthetic and manual lysis using a surgical probe [9].

Furthermore, in around 5–10% of cases, surgical adhesiolysis under general anesthesia may be necessary [19]. One female children were used as example in this study and her labial adhesion were manually separated. The administration of estrogen cream was part of the ongoing treatment.

The ideal way to conduct surgical separation is with a topical anesthetic. 5 to 10 minutes after applying 2% or 5% lidocaine ointment, or 30 minutes with the use of EMLA, a topical 2.5%/lidocaine prilocaine 2.5% mixture which allows for the separation. The prilocaine/lidocaine product insert comprises age-appropriate and kilogram weight dosage recommendations for children. No specific technique of surgical separation has been studied, nor do most studies provide details of the methods used, but textbooks describe use of a lubricated Q-tip inserted into the opening in the adhesions and pulled along the raphe [11].

Surgical separation of labial adhesions is a relatively straightforward procedure, typically performed under general anesthesia to ensure patient comfort and optimal results. The surgeon carefully dissects the fused labia using blunt dissection or, in some cases, a fine scalpel. The goal is to restore the normal anatomy without causing trauma to the delicate tissues. Postoperatively, a topical antibiotic ointment or estrogen cream is often applied to prevent re-adhesion and promote healing [21].

Recently, various reconstruction techniques have been reported, all showing promising results. Takemura *et al*., highlighted the application of the Heineke-Mikulicz suturing technique, which is traditionally used to widen narrowed sections of the bowel, as an effective treatment for labial adhesion. This minimally invasive approach involves making a longitudinal incision along the adhesion and then suturing it transversely, which restores the normal spacing between the labia majora [22].

Postoperative care is crucial in preventing recurrence. Parents are advised to maintain good perineal hygiene, apply prescribed ointments, and encourage regular urination to prevent future adhesions. Follow-up visits are essential to monitor healing and detect any early signs of re-adhesion. While the procedure is generally safe, potential complications include minor bleeding, infection, or discomfort during healing. Recurrence of the adhesion is possible, particularly if postoperative care is not adequately followed [21].

In conclusion, parental worry is often caused by labial adhesions, which are frequently misdiagnosed or require unnecessary examinations. As a result, we advise doctors to examine females' genitalia when they complain of urinary tract issues. Usually, they are handled cautiously. For patients who are symptomatic, separation can also be accomplished manually or surgically. Recurrence rates following surgical adhesion separation are 10% [18]. Therefore, it is advisable to start the topical medication and wait a few weeks before thinking about surgery [1].

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