



Labial Adhesion: Evaluation and Management



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Definition, Epidemiology and Pathophysiology

Labial adhesions, also known as labial agglutination, are defined as fusion of the labia minora in the midline. When the fusion occurs below the labia minora, vulvar adhesion is the correct terminology.

Labial adhesions occur most commonly between 3 months and 6 years of age. The peak incidence is between 13 and 23 months of age.

Labial adhesions are thought to develop secondary to vulvar inflammation in a low estrogen environment. This is why it is uncommon to see adhesions in the immediate newborn period (a period of maternal estrogen exposure) and in post-pubertal females (when women make their own endogenous estrogen).

Adhesions in the post-pubertal patient are typically associated with prior surgical procedures, vulvar trauma or inflammatory conditions such as Stevens-Johnson syndrome, lichen sclerosus, graft versus host disease and Behcet's disease.

Clinical Presentation and Diagnosis

Labial adhesions are often asymptomatic and typically an isolated finding, occurring in the absence of other upper genital tract anomalies or pathology. If asymptomatic, they may be noticed during a routine gynecologic exam.

Patients with symptomatic labial adhesions often present with urinary complaints such as abnormal voiding, post-void dribbling or urinary tract infections. They may also present with vaginal discharge and vulvovaginitis symptoms such as vulvar erythema, vulvar pruritus, vulvar pain and vaginal discharge.

The diagnosis of labial adhesion is made by visual inspection of the external genitalia. 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.

If complete occlusion is noted – that is, the urethral meatus appears normal, but there is no visible vaginal introitus – an imperforate hymen or low transverse vaginal septum must be ruled out.

With labial adhesions, the labia minora are the site of the obstruction. With an imperforate hymen or low transverse vaginal septum, the labia can clearly be separated and no vaginal introitus is visible.

Labial adhesions can also be distinguished from vaginal agenesis. With adhesions the hymenal tissue will be absent because it is covered by adhesions, and the midline raphe is visible. With vaginal agenesis the labia appear normal, and when separated there is no vaginal introitus. A small vaginal dimple (indentation of perineal skin) may be present, but the vagina is absent.

Rarely, the urethra is obscured. Even with extensive labial adhesions, inability to void is rare.

Treatment Recommendations

Observation

If a patient has asymptomatic labial adhesion, conservative management is the most appropriate approach. Most patients will have spontaneous resolution of their adhesions at puberty when they begin to produce endogenous estrogen, and labial adhesions rarely cause any long-term gynecologic or urologic complications. Optimizing vulvar hygiene is important to reduce the risk of recurrence related to vulvar inflammation.

Estrogens

For symptomatic patients, topical estrogen cream such as Premarin® and estradiol (0.01%) cream such as Estrace® Cream are the first-line medical treatments. A fingertip amount should be applied to the midline raphe twice daily for two to six weeks. Caregivers should be instructed on how to apply the estrogen cream and shown exactly where to apply it. Gentle traction on the labia minora and pressure directly on the adhesion while applying the cream increases the rate of successful separation.

Patients may find it helpful to take a tub bath prior to application. Common transient side effects of estrogen therapy include irritation, erythema, breast buds and, rarely, vaginal bleeding. Success rates of estrogen therapy range from 50-89%.

Steroids

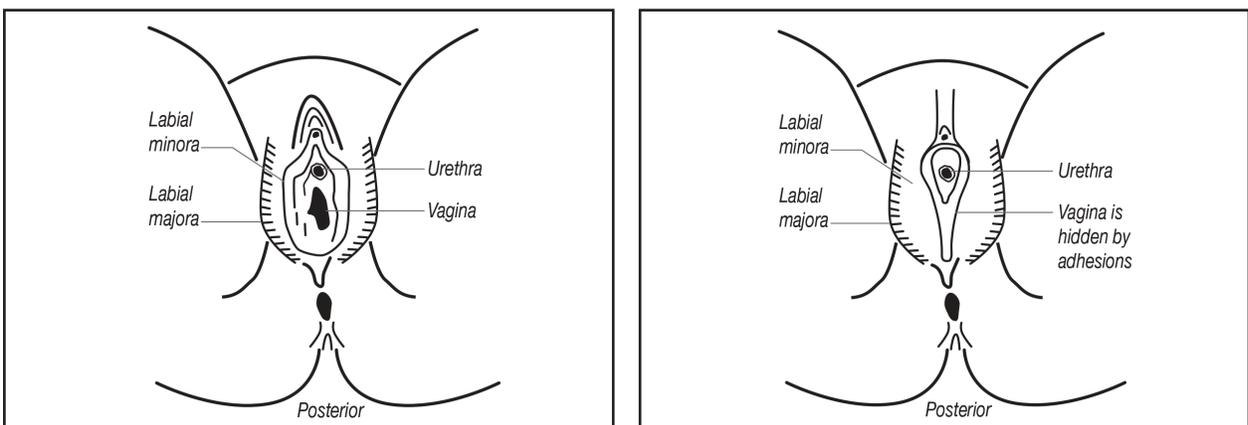
An alternative to estrogen therapy is topical betamethasone (0.05%) applied twice daily for four to six weeks. Steroid therapy can be considered in cases of recurrent adhesions or for patients who failed estrogen therapy. Transient side effects include erythema, pruritus, folliculitis, skin atrophy and fine hair growth.

Manual separation

While rarely need, manual separation may be performed in cases of adhesion with significant symptoms (such as urinary retention) or in cases of failed medical therapy.

When necessary, manual separation is best performed by providers who have experience with separation techniques. Manual separation without topical anesthesia or sedation should be avoided, as it is painful and may be traumatic. Furthermore, recurrent manual separation has been associated with thicker, more resistant adhesions.

Manual separation may be performed in the office with the use of topical anesthetic, or in the operating room/procedure center under sedation. After the procedure, it is important to apply topical estrogen cream twice daily for two to four weeks, followed by topical emollient application (e.g. A&D ointment or Aquaphor) for several months.



Recurrence Risk

The recurrence risk has been reported to be 7 to 55 percent. Discussion of the high recurrence rates should occur at the onset of treatment so that the patient’s caregivers have realistic expectations of treatment efficacy.

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.

When to Refer

Consider referral to a specialist in gynecology at Nationwide Children’s Hospital if the patient is symptomatic with moderate/severe adhesions, has failed prior therapy or has underlying medical conditions that may contribute to the disease process.

References

Bacon JL, Romano ME, Quint EH. Clinical recommendation: labial adhesions. *Journal of Pediatric and Adolescent Gynecology*. 2015 Oct;28(5):405-9.

Emans SJ. “Vulvovaginal problems in the prepubertal child” in Emans, Laufer, *Goldstein’s Pediatric & Adolescent Gynecology*, 6th ed. 2012, pp. 55-57.

Referrals and Consultations

Online: [NationwideChildrens.org](https://www.nationwidechildrens.org)

Phone: (614) 722-6200 or (877) 722-6220 | Fax: (614) 722-4000

Physician Direct Connect Line for 24-hour urgent physician consultations:
(614) 355-0221 or (877) 355-0221.

