ORIGINAL RESEARCH PAPER
Volume - 15 | Issue - 11 | November - 2026 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

NEAR COMPLETE LABIAL AGGLUTINATION PRESENTING AS ACUTE ON CHRONIC URINARY RETENTION IN AN ADOLESCENT GIRL: A RARE CASE REPORT

Obstetrics & Gynaecology

Ayushi Gupta* Senior Resident, Department of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar, Rajasthan, India*Corresponding Author

Ritu Gupta Senior Professor and Unit Head, Department of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar, Rajasthan, India

Sanjay Porwal Senior Professor and Dean, Department of General Surgery, Jhalawar Medical College, Jhalawar, Rajasthan, India

ABSTRACT

Background. Labial agglutination is characterized by partial or complete fusion of the labia minora. It is commonly observed in prepubertal girls and postmenopausal women but it is uncommon in adolescents. Severe labial agglutination causing bladder outlet obstruction and urinary retention is exceedingly rare.**Case Presentation**. A 16-year-old adolescent girl presented with difficulty in urination on a background of longstanding urinary dribbling and progressive urinary retention. Examination under anesthesia revealed dense labial agglutination obscuring the external urethral meatus and vaginal introitus. Surgical adhesiolysis was performed successfully, restoring normal anatomy. Following catheterization, approximately 700 mL of urine was drained. Postoperatively, the patient experienced complete relief of symptoms and was able to void normally. Discussion. Labial agglutination in adolescence is uncommon and may be associated with chronic local irritation, inflammation, poor perineal hygiene, recurrent infections, and persistent moisture. In the present case, chronic urinary dribbling may have contributed to ongoing vulval irritation and progressive labial fusion, eventually leading to bladder outlet obstruction. Congenital anomalies such as persistent urogenital membrane were considered; however, operative findings were more consistent with acquired labial agglutination.**Conclusion.** Although rare in adolescents, severe labial agglutination should be considered in the differential diagnosis of urinary retention. Thorough genital examination is essential for timely diagnosis, and surgical adhesiolysis can provide excellent functional outcomes.

KEYWORDS

Labial Agglutination; Labial Fusion; Adolescent; Urinary Retention

INTRODUCTION

Labial agglutination, also referred to as labial fusion or labial adhesion, is a condition characterized by partial or complete adherence of the labia minora in the midline (Tîrnovanu et al., 2024). The condition is predominantly encountered in prepubertal girls due to hypoestrogenism and in postmenopausal women owing to estrogen deficiency and chronic irritation (Thakur et al., 2018).

Most cases are asymptomatic and are discovered incidentally. Symptomatic patients may present with urinary frequency, urinary dribbling, post-void leakage, recurrent urinary tract infections, dysuria, or rarely urinary retention. Acute urinary retention secondary to near complete labial agglutination in an adolescent is an exceptionally rare presentation.

Case Report

A 16-year-old unmarried girl presented to the surgery outpatient department with complaints of difficulty in urination, weak urinary stream, and suprapubic pain for about 30 days, where chronic cystitis was considered as the probable diagnosis. She was managed conservatively; however, her symptoms failed to improve. In view of persistent urinary complaints, progressive urinary retention and difficulty in catheterization, a gynecological consultation was sought. On gynecological evaluation, the patient gave a history of continuous urinary dribbling requiring frequent changing of undergarments and progressive difficulty in passing urine. She attained menarche at 13 years of age and reported regular menstrual cycles occurring at monthly intervals with scanty three day menstrual flow. Occasional dysmenorrhea was present.

The patient denied any history of genital trauma, previous genital surgery, sexual activity, dermatological disorders, recurrent vulvovaginitis, female genital cutting, or urinary tract abnormalities.

On examination, her general condition was stable. Abdominal examination revealed a soft abdomen without guarding or rigidity.

Local examination of the external genitalia demonstrated near complete fusion of the labia minora in the midline. Only a small [1 mm × 1 mm] aperture posteriorly was visible, through which menstrual blood could be seen. The external urethral meatus and vaginal introitus were not visible. Repeated attempts at blind urethral catheterization failed because the urethral opening could not be localized. It was then presumed that urine and menstrual blood were coming from the same aperture (Figure 1).

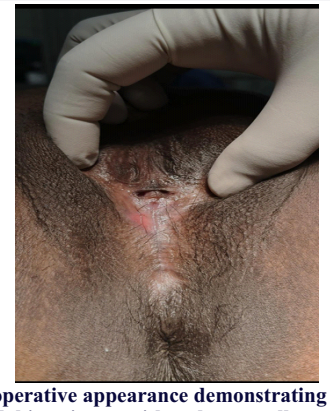


Figure 1. Preoperative appearance demonstrating near complete fusion of the labia minora with only a small posterior opening visible.

Laboratory investigations including complete blood count, renal function tests, liver function tests, and serum electrolytes were within normal limits.

Ultrasonography of the abdomen and pelvis demonstrated a distended urinary bladder with an estimated pre-void volume of approximately 535 mL and postvoid USG showed 250 mL, suggestive of significant urinary retention. The uterus, ovaries, kidneys, and upper urinary tract appeared normal.

Because of persistent urinary retention and inability to identify the urethral meatus, examination under anesthesia was planned.

Under spinal anesthesia and dorsal lithotomy position, extensive fusion of the labia minora was confirmed. A small posterior opening was identified. Gentle dilation of this opening was performed using an artery forceps; after confirmation of the vagina, the urethral opening was identified anteriorly and K-90 was introduced successfully into the urinary bladder, with clear urine drained. After that, Foley's catheter [No. 16] was introduced, and 700–800 mL of retained urine was drained (Figure 2).

Figure 2. Intraoperative catheterization through the narrow opening after gentle dilation.



A posterior incision was subsequently made along the fused labial plane with digital dilatation, resulting in complete separation of the adhesions. Following adhesiolysis, normal vulvar anatomy was restored with clear visualization of both the external urethral meatus and vaginal introitus. No definite congenital membrane or structural genital tract anomaly was visualized. External vulvar packing was applied to prevent oozing and re-adhesion. No intraoperative complications occurred.

The postoperative period was uneventful. The patient voided normally after catheter removal and reported complete resolution of obstructive urinary symptoms. She remained clinically stable throughout her hospital stay and was discharged on postoperative day 5 in satisfactory condition. At follow-up, the vulval anatomy remained normal without any evidence of recurrence (Figure 3).

Figure 3. Postoperative appearance showing visualization of both the urethral meatus and vaginal introitus.



DISCUSSION

Labial agglutination results from adhesion of opposing labial surfaces following epithelial denudation and healing. The process is generally associated with chronic inflammation, local irritation, infection, trauma, dermatological disorders, or hypoestrogenic states.

Adolescent cases are rare because adequate estrogenization usually prevents adhesion formation. When present, clinicians should investigate potential etiological factors including chronic vulvovaginitis, poor perineal hygiene, urinary incontinence, persistent moisture, dermatological disease, or previous trauma.

The present patient had a history of longstanding urinary dribbling. Chronic wetness of the vulval tissues may have promoted repeated episodes of local irritation and inflammation, eventually resulting in progressive fusion of the labial surfaces. The narrowing created by the fusion likely caused worsening bladder outlet obstruction, culminating in urinary retention.

Differential diagnoses considered included persistent urogenital membrane, imperforate hymen, transverse vaginal septum, distal vaginal atresia, and other congenital obstructive anomalies. However, restoration of normal anatomy after adhesiolysis and the absence of a distinct congenital membrane favored acquired labial agglutination as the most likely diagnosis.

Management depends on symptom severity. Conservative treatment with topical estrogen or topical steroids may be effective in mild cases (Murina et al., 2024; Sabir et al., 2026). Surgical adhesiolysis is indicated in extensive adhesions, urinary obstruction, urinary retention, recurrent infections, or failed medical management. Our patient had severe obstruction and significant urinary retention, making surgical intervention the most appropriate treatment.

The present case highlights the potential for delayed diagnosis when urinary symptoms are attributed solely to lower urinary tract pathology. Initial management focused on chronic cystitis; however, persistent symptoms and difficulty in catheterization prompted gynecological evaluation, ultimately revealing the underlying anatomical cause. This emphasizes the importance of careful external genital examination in all female patients presenting with unexplained urinary symptoms. Early recognition may prevent prolonged morbidity and complications related to bladder outlet obstruction.

CONCLUSION

Near complete labial agglutination is an uncommon but important cause of urinary retention in adolescent girls. Chronic urinary dribbling and persistent vulval irritation may contribute to its development. A high index of suspicion, meticulous genital examination, and timely surgical management can result in complete symptom resolution and restoration of normal urinary function.

Patient Consent

Written informed consent was obtained from the patient and her legal guardian for publication of clinical information and images. Efforts have been made to conceal the patient's identity, and anonymity cannot be guaranteed. A copy of the consent form is available for review by the Editor of this journal.

Conflict of Interest

The authors declare no conflict of interest.

Funding

No funding was received for this study.

REFERENCES

1. Tîrnovanu, M. C., Cojocaru, E., Tîrnovanu, V. G., Toma, B. F., Păvăloiu, C., Toma, L., Parteni, D. E., & Tîrnovanu, . D. (2024). Bladder outlet obstruction due to recurrent complete labial fusion in postmenopausal woman—Case report. *Diagnostics, 14*(23), 2659. https://doi.org/10.3390/diagnostics14232659
2. Thakur, P., Singh, V., Sinha, S., & Singh, A. (2018). Labial agglutination in a pubertal girl. *Journal of Clinical and Diagnostic Research*, QD01–QD02. https://doi.org/10.7860/JCDR/2018/31835.11087
3. Murina, F., Fochesato, C., & Savasi, V. M. (2024). Treatment of prepubertal labial adhesions with topical estriol + testosterone: A case report. *Pediatric Reports, 16*(3), 558–565. https://doi.org/10.3390/pediatric16030047
4. Sabir, S., Anand, S., & Mendez, M. D. (2026). Labial adhesions. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK470461/