



LESSONS

Low-cost Outpatient Manual Separation of Labial Adhesions Avoids Robotic Surgery in A 3-Month-Old Infant

Srijan Singh^{1,*} and Minu Bajpai²

¹Department of Neonatology, Yashoda Medicity, Indirapuram, Ghaziabad, India

²Department of Pediatric Surgery, Yashoda Medicity, Indirapuram, Ghaziabad, India

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Case Report

A 3-month-old female infant presented to the outpatient department with a 2-week history of *post-void dribbling*, which was noticed by parents after each urination. There was mild local irritation but no history of any fever, urinary retention, recurrent urinary tract infections, or systemic symptoms. The infant was born at term via normal vaginal delivery with an uneventful perinatal period. No history of trauma, prior genital manipulation, or significant diaper dermatitis was reported.

On genital examination, complete labial adhesions were present with the fusion of the labia minora from the posterior fourchette up to near the clitoral hood, leaving only a small anterior opening for urine passage (Figures 1 A and B). The

adhesion was thin and filmy and a midline raphe was visible on examination.

Informed consent of the parents was taken and a manual separation of the adhesions was performed by the pediatric surgeon in the OPD procedure room under sterile and aseptic precautions. The thin adhesion was removed by a gentle lateral traction with gloved fingers without using any sharp instruments. There was minimal ooze, which stopped with gentle pressure. The procedure was well tolerated with minimal distress to the infant. The separation of the adhesions was achieved easily, with minimal resistance, without any blood loss or significant pain or distress to the infant. Post-separation, the urethral meatus and vaginal introitus were clearly visualized and patent (Figure 1 C).

*Corresponding Author: Srijan Singh

Email: srijanstar89@gmail.com



Figure 1. A & B. Pre-procedure clinical photographs of the infant showing complete labial adhesions with narrow urinary stream outlet. C: Immediate post-procedure photographs demonstrating successful manual release of the labial adhesions with restored normal anatomy (separate urethral and vaginal openings).

Local hygiene was explained to baby's parents and were advised to apply neomycin-polymyxin B-bacitracin ointment twice daily for 7–10 days to prevent infection and re-adhesion. A barrier ointment (e.g., petroleum jelly) application was advised for a few weeks. Parents were instructed to report on noting any signs of recurrence.

Follow-up examination at 1 week and 4 weeks showed complete resolution of post-void dribbling, no recurrence of adhesions, and normalisation of voiding pattern. The parents were reassured and educated about the condition.

The patient had previously been evaluated elsewhere. She was suspected to have Vesico-Vaginal fistula & advised robotic surgery. This was due to lack of performing a thorough clinical

examination. This procedure had a high estimated cost and potential anesthetic risks for a 3-month-old infant. In contrast, a simple, low-cost manual separation was successfully performed in the pediatric surgery outpatient department (OPD) procedure room under aseptic conditions using gentle lateral traction with gloved fingers. No sedation or general anesthesia was required. Post-procedure application of Neosporin ointment and appropriate aftercare prevented recurrence, demonstrating that timely intervention by an experienced pediatric surgeon can safely avoid the need for more invasive and expensive surgical approaches.

This case illustrates a successful, minimally invasive management of symptomatic labial adhesions in early infancy in an outpatient setting.

Lessons

Labial adhesions remain a common acquired condition in prepubertal girls caused by hypoestrogenism, local inflammation, and minor trauma leading to midline fibrous bridging [1]. Although most common between 13–23 months of age, presentation in early infancy (including at 3 months) is recognized, particularly when symptoms such as *post-void dribbling* occur due to urine pooling in the vaginal vestibule behind the adhesion.

Classic symptoms include post-void dribbling, urinary stream abnormalities, recurrent vulvovaginitis, dysuria, or (rarely) acute urinary retention [2-4]. In this infant, post-void dribbling was the predominant and easily noticeable symptom that prompted medical attention. Early recognition during routine well-baby visits or parental reporting is important.

Management Considerations in Young Infants

While topical estrogen or corticosteroid creams are usually first-line for most cases, thin adhesions in very young infants can often be gently separated manually in the outpatient setting by an experienced pediatric surgeon [5,6], as illustrated in Figure 2. Our approach prevents the need of prolonged topical therapy, reduces parental anxiety, and provides immediate symptomatic relief. Key prerequisites include:

- Thin/filmy adhesions (not dense or scarred)
- Availability of topical anesthesia if needed
- Strict asepsis
- Comprehensive aftercare with barrier/antibiotic ointment

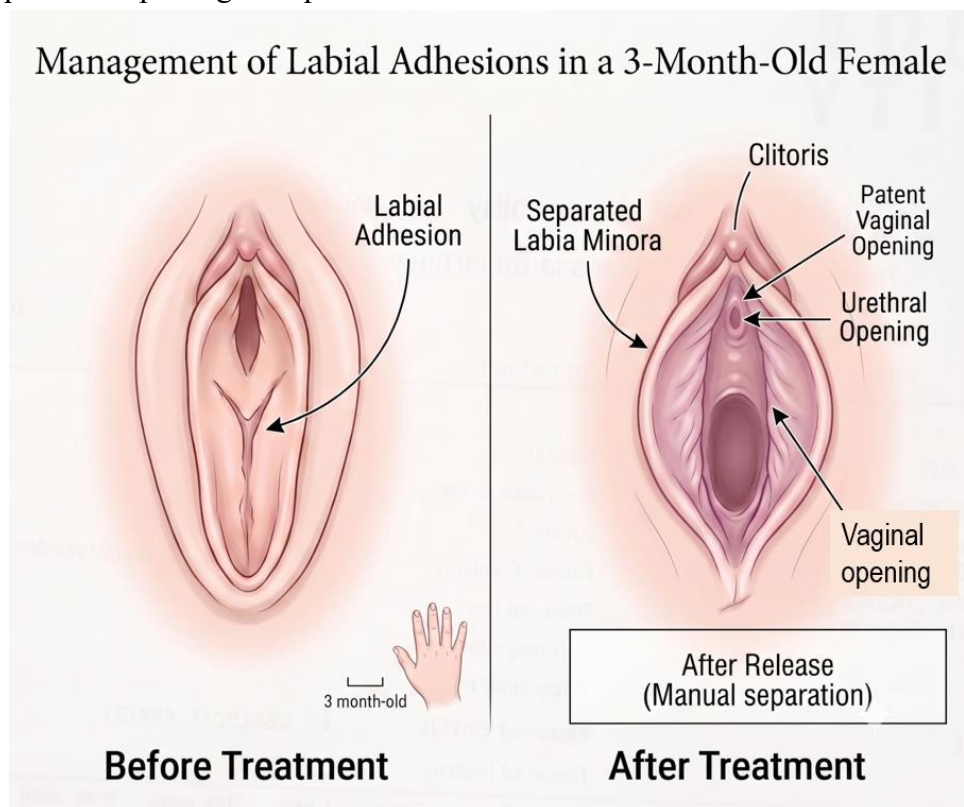


Figure 2. Schematic diagram illustrating pre- and post-separation anatomy of labial adhesions. These figures have been made with the use of an AI tool (Google Gemini).

Recurrence rates after manual separation range from 10–30% [1,7-9]. Hence, meticulous post-procedure care with emollients for at least 4–8 weeks is essential. Surgical lysis of adhesions under anesthesia is reserved for those with failure of manual separation or thick adhesions.

Advantages of Outpatient Approach

In resource-appropriate settings, this is a safe and cost-effective method. It also avoids the risks of general anesthesia in neonates and infants.

Lessons

This case reiterates the importance of tailoring the management based on age, adhesion characteristics, and symptom severity. Post-void dribbling in female infants should raise suspicion for labial adhesions. Prompt and gentle intervention by pediatric surgeon when indicated can yield excellent outcomes with minimal morbidity. Clinicians should maintain a high index of suspicion and counsel parents pragmatically. There should also be proper documentation of images of the procedure (with informed consent) for medicolegal purposes.

Conclusion

The successful OPD manual separation in this 3-month-old with post-void dribbling highlights that even in early infancy, symptomatic labial adhesions can be managed effectively with a minimally invasive approach.

Statements and Declarations

Conflicts of interest

The authors declare that they do not have conflict of interest.

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