Separation of Labial Fusion Under Topical Anesthesia†

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Abstract

A prospective study from August 1987 to April 1996 at the Outpatient Pediatric Surgical Unit, Ratchaburi Hospital, of labial separations performed under topical analgesic cream in 31 labial fusions. The ages ranged from 5 months to 5 years. Topical analgesic cream (EMLA cream) produces adequate anesthesia for labial separation in children without causing pain. It is a simple, safe and effective technique including a very short duration of therapy that should be performed in children with labial fusion.

Key word : Labial Fusion, Separation, Topical Anesthesia

Labial fusion (Synechea vulva, Labial adhesion, Labial agglutination), a complete or partial fusion of labia minora in the midline, occurs most commonly in girls 6 months to 6 years of age. The cause is unknown but may be related to low circulating estrogen level and an irritation that erodes the vulva epithelium, causing the labia to stick together. This labial fusion is effected by connective tissue adhesions, at first delicate but later fibrous in consistency that tie one labium to the other[1-3,5]. This condition does not occur in the first day of life, for this reason it is not a congenital malformation. Diagnosis is made by simple observation. There is fusion of the labia minora and the hymen is not visible. The line of fusion is a thin, transparent membrane which may involve the inner surfaces of the labia. Most frequently, the fusion ends several millimeters behind the clitoris but anterior to the external urethral meatus (Fig. 1). There may be several perforations in the membrane, or the adhesion may be partial either anteriorly or posteriorly[4-6]. Occasionally the vaginal orifice is completely covered, causing poor drainage of vaginal secretions and sequestering of urine in the vagina, which may develop urinary tract infection or urinary tract obstruction[7,8]. Parents often become alarmed because the vagina appears "absent". Differential diagnosis of labial fusion is vaginal atresia, that presents within the first day of life and develops hydrometrocolpos (Fig. 2, 3).

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† Presented at the 21st Annual Scientific Meeting, Royal College of Surgeons of Thailand, 26-29 July 1996, the Regent Cha-Am Hotel, Petchaburi, Thailand.

Fig. 1. Labial fusion in a girl 1 year old, shows transparent membrane that fused labia minora.

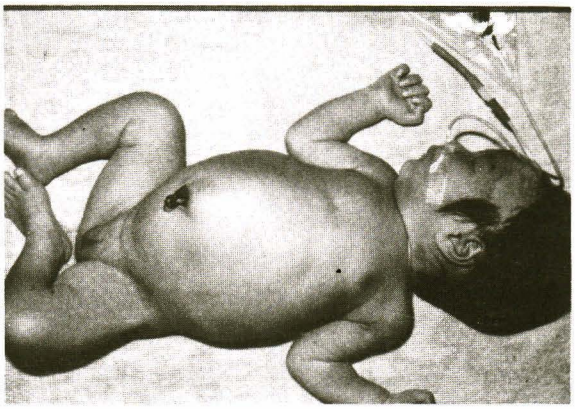

Fig. 3. Hydrometrocolpos presented as an abdominal mass in the vaginal atresia at the first day of life.

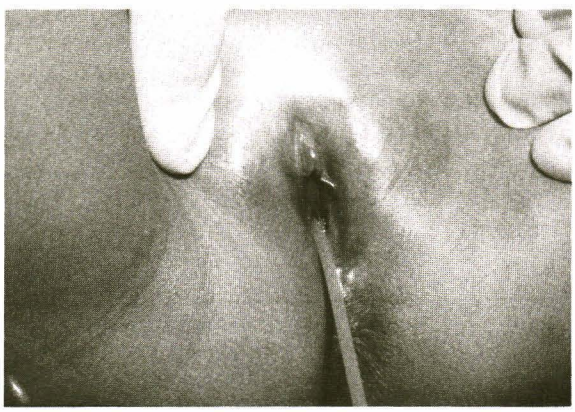

Fig. 2. Vaginal atresia in a girl 5 months old, normal labia minora but no vagina.

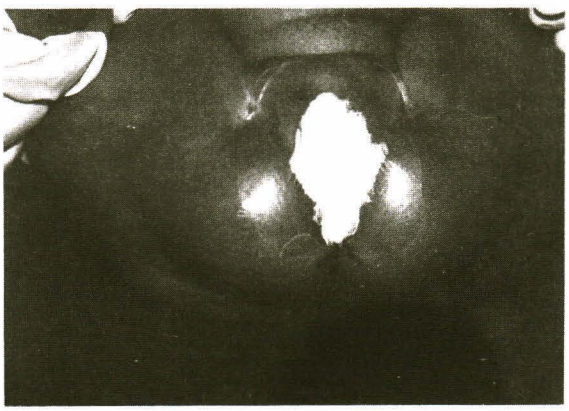

Fig. 4. Application of topical analgesic cream (EMLA cream) and covered with an occlusive dressing (Tegaderm).

In the case of complete labial fusion where vaginal or urinary drainage is impaired or the child complains of pain, an estrogen-containing cream should be applied twice daily for 3 weeks followed by once daily for 3 weeks. After 2 weeks of therapy the patient should be seen in the follow-up. If the labial fusion has resolved, then the premarin cream is continued once daily for 1 week. After the discontinuation of the estrogen cream, the use of a bland ointment is helpful in the attempt to keep the labial fusion from reforming. Occasionally a repeat course of therapy is necessary. When estrogen therapy fails, separation is best performed under general anesthesia, followed by application of a bland ointment and gentle separation by the parent at regular intervals[4,5].

The author reports the study of labial separations in labial fusions with topical anesthesia, by using EMLA cream in which each 1 gram is composed of lidocaine 25 mg and prilocaine 25 mg[9-11]. The area was covered with an occlusive dressing (Tegaderm). The purpose of this study is to show a simple technique that is safe, effective with a very short duration of therapy in the treatment of labial fusions.

Fig. 5. After applying topical analgesic cream demonstrates transparent membrane.

Fig. 6. Small artery clamp separates from upper border downwards.

MATERIAL AND METHOD

The study was conducted as a prospective noncomparative study at the Outpatient Pediatric Surgical Unit, Ratchaburi Hospital from August 1987 to April 1996.

There were 31 female pediatric patients with labial fusion diagnosed at the outpatient unit. The ages ranged from 5 months to 5 years. Two grams of EMLA cream (lidocaine 50 mg, prilocaine 50 mg) was applied on the labial fusion area and covered with an occlusive dressing (Tegaderm). The cream was applied for 1 hour in all patients

Fig. 7. Vagina after complete labial separation.

(Fig. 4). The labial fusion was gentle separation with a small artery clamp until the vagina was seen, followed by application of a vasaline ointment twice daily for 1 week by the parent (Fig. 5-7). Follow-ups were scheduled for 2, 4 and 8 weeks after labial separation.

RESULTS

All patients cooperated with the labial separation without causing pain. Labial separation was completed between 1 and 5 minutes. All parents accepted this method because there was no need for hospitalization, it was safe, quick and required no general anesthesia. There were no complications or side effects. No recurrent labial fusion occurred after 2, 4 and 8 weeks follow-up.

DISCUSSION

Labial separation is performed under general anesthesia when estrogen therapy fails in the treatment of labial fusion. The duration of estrogen therapy is about three months, which prolongs the duration of therapy. While labial separation under general anesthesia needs patient preparation and hospitalization. For this reason, labial separation under topical anesthesia is the alternative choice for treatment of labial fusion. Topical analgesic cream (EMLA cream) produced adequate analgesia to perform labial separation in 31 labial fusions at the Outpatient Pediatric Surgical Unit, Ratchaburi Hospital. This study demonstrates that labial separation is a simple, safe and effective technique for labial fusion. This technique should be used in other minor pediatric procedures at the outpatient unit.

ACKNOWLEDGEMENT

The author wishes to thank Professor Polpatt Talalak, Professor Phaibul Sutthiwan, Assistant Professor Chana Sathornkich, Division of Pediatric Surgery, Department of Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University for a very useful advice and Astra Pharmaceutical for supporting this study.

(Received for publication on December 19, 1997)

REFERENCES

1. Barton FF, King LR. Abnormalities of the urethra, penis and scrotum. In: Welch KJ, Randolph JG, Ravitch MM, O'Neill JA, Rowe MI, eds. Pediatric Surgery. 4th ed. Chicago: Year Book Medical Publishers, 1986: 1314-26.
2. Raffensperger JG. Vaginal anomalies. In: Raffensperger JG, ed. Swenson's Pediatric Surgery. 4th ed. New York: Appleton Century Croft, 1980: 905-10.
3. Ramenofsky ML. Vaginal lesions. In: Holder TM, Ashcraft KW, eds. Pediatric Surgery. Philadelphia: W.B.Saunders, 1980: 891-908.
4. Laufer MR, Goldstein DP. Pediatric and adolescent gynecology. In: Ryan KJ, Berkowitz RS, Barbieri RL, eds. Kistner's Gynecology. 6th ed. Missouri: Mosby Year Book Inc.,1995: 571-632.
5. Grupe WE. Abnormalities of the genital tract. In: Avery ME, Taeusch HW, eds. Schaffer's Diseases of the Newborn. 5th ed. Philadelphia: W.B. Saunders Company, 1984: 408-9.
6. Wentz AC. Congenital anomalies and intersexuality. In: Jone HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11st ed. Baltimore: Williams & Wilkins, 1988: 140-86.
7. Leung AK, Robson WL. Labial fusion and urinary tract infection. Child Nephrol Urol 1992; 12: 62-4.
8. Norbeck JC, Ritchey MR, Bloom DA. Labial fusion causing upper urinary tract obstruction. Urology 1993; 42: 209-11.
9. Ogborn MR. The use of a eutectic mixture of local anesthetic in pediatric renal biopsy. Pediatr Nephrol 1992; 6: 276-7.
10. Benini F, Johnston CC, Faucher D, Aranda JV. Topical anesthesia during circumcision in newborn infants. JAMA 1993; 270: 850-3.
11. Treetrakarn T, Pirayavaraporn S. Postopertive pain relief for circumcision in children: Comparision among morphine, nerve block, and topical analgesia. Anesthesiology 1985; 62: 519-22.

การแยกปากช่องคลอดติดด้วยยาทาชาเฉพาะที่†

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ได้ทำการศึกษาแบบล่วงหน้าระหว่างเดือนสิงหาคม 2530 ถึงเดือนเมษายน 2539 ที่แผนกผู้ป่วยนอกศัลยกรรมเด็ก โรงพยาบาลราชบุรี ทำการแยกปากช่องคลอดด้วยครีมทาชาเฉพาะที่ในผู้ป่วยปากช่องคลอดติดจำนวน 31 ราย อายุระหว่าง 5 เดือนถึง 5 ปี ครีมทาชาเฉพาะที่ (EMLA cream) ให้ความชาเพียงพอสำหรับทำการแยกปากช่องคลอดโดยไม่เกิดความเจ็บปวด เป็นเทคนิคที่ง่าย, ปลอดภัยและให้ผลดีรวมถึงใช้เวลาในการรักษาสั้นมาก สมควรนำไปใช้ในการรักษาผู้ป่วยปากช่องคลอดติดต่อไป

คำสำคัญ : ปากช่องคลอดติด, การแยก, ยาชาเฉพาะที่

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† เสนอในที่ประชุมวิชาการประจำปีครั้งที่ 21 ราชวิทยาลัยศัลยแพทย์แห่งประเทศไทย 26-29 กรกฎาคม 2539 โรงแรมรีเจ้นท์ชะอำ จ.เพชรบุรี