

Interlabial fusion: As a new subtype of labial fusion

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Abstract

Aim: to determine a new subtype of the labial fusion and to arrange treatment options according to this type.

Material and Methods: We reviewed the medical records of patients with labial fusion, malodorous vaginal discharge and vulvar pruritus from July 2016 and August 2018 in pediatric surgery outpatient clinic. Anomalous fusion between labia minora and labia majora was observed in some patients, especially with vaginal discharge and pruritus. These patients were separated, characterized by common features and identified as a new subtype.

Definition and Nomenclature: In this subtype, fusion is between the labia minora and majora, bilaterally. As the fusion is between the labia minora and labia majora, we prefer naming this condition as Interlabial (inter. lat=between) Fusion.

Results: A total of 86 patients were included. Of this 86 patients 6 were admitted due to malodorous vaginal discharge and vulvar pruritus. Four of the six patients had abnormal adhesions between the labias. These patients were defined as interlabial fusion. Interlabial fusion was detected in only 4.7% of the patients. Topical steroid therapy was started in each of the four patients. All of the patients were fully recovered.

Conclusion: Interlabial fusion is a rare condition, but it is not a separate disease. It is the result of different diseases affecting the genital area. It should be brought to mind in patients presenting with complaints of vaginal discharge and pruritus, especially if these complaints have recurred. Topical steroid therapy should be started as an initial treatment.

Keywords: Labial Adhesions; Labial Agglutination; Labial Fusion; Management; Pre-Pubertal.

INTRODUCTION

Labial fusions (LF) are also known as a labial agglutination or synechia vulvae. It is one of the most common causes of admission to the pediatric surgery outpatient clinic among the prepubertal girls (1). Labial fusions are defined as the complete or partial fusion of the pudendal cleft due to the sealing of the labia minora in the midline (2). The degree of adhesions can range from the entire length of the labia minora to only a small portion (3,4). LF is not present at birth (5). They are thought to develop in the period of re-epithelialization of the micro-traumatized and nonestrogenised labial skin (6).

Blockage of the free flow of urine may predispose to different symptoms, such as post-void dribbling, strain, and restlessness during urination, and recurrent urinary tract infection. But labial fusions are usually asymptomatic and are detected incidentally by a meticulous pediatrician. Since they are usually asymptomatic, follow-up is sufficient. Medical and / or surgical options are available

if treatment is indicated. Medical treatment includes use of estrogen cream or betamethasone cream. Surgical treatment rarely required, if not responding to medical treatment or dense fusions.

LF is classified as a complete and incomplete fusion. We encountered the third form of the disease in our practice and want to share this third form of the disease in this study.

MATERIAL and METHODS

We reviewed the medical records of patients with LF, malodorous vaginal discharge and vulvar pruritus from July 2016 and August 2018 in pediatric surgery outpatient clinic of the Baku Central Custom Hospital and Istanbul Safa Hospital. All LF cases were referred to pediatric surgeon from the pediatric outpatient clinic. Some patients with vaginal discharge and pruritus were admitted directly to pediatric surgery outpatient clinic, as at all of them, symptoms had been recurred after treatment at different hospital.

Received: 21.11.2018 **Accepted:** 29.11.2018 **Available online:** 04.12.2018

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Medical records were reviewed to determine their age at presentation, referral indication, symptoms, extent of fusions at initial assessment, any treatment provided and any subsequent review. The indications for treatment of LF defined as;

- Symptoms (urinary tract infection, urinary retention, post-void dripping, and etc.)
- Unconvinced parental concern

In our practice, when therapy is appropriate, topical betamethasone ointment preparation (Betnovate™ GlaxoSmithKline, Istanbul, Turkey), remains the first-line medical treatment.

At the end of the second week of the ointment treatment, the patient is called back to the control and the re-examination is made. If there is evidence of improvement, ointment treatment is extended to the third week. If there is no sign of improvement at the end of second week, the ointment therapy is stopped and surgical treatment is recommended. After the fusion resolve, the Vaseline is applied to the wound edges for ten days twice. This prevents the wound edges from sticking again until the wounds complete epithelialization.

Anomalous fusion between labia minora and labia majora was observed in some patients, especially with vaginal discharge and pruritus. These patients were separated, characterized by common features and identified as new subtype.

This was an observational, retrospective study so it was not necessary to request an informed consent. Data were anonymized.

Definition: Standard labial fusions are sealing of labia minora in midline. However, in this subtype, fusion is between the labia minora and majora, bilaterally (Figure 1).



Figure 1. Interlabial fusion

There is no unilateral fusion in our practice. Fusion is between the external edge of labia minora and anywhere in the labia majora (Figure 2).



Figure 2. Interlabial fusion (the arrows show fusion areas).

There is a fibrous tissue at different thicknesses (thin to dense) between the labias as in standard labial fusion. Mosquito clamp can be inserted through the adhered labias.

Nomenclature: As the fusion is between the labia minora and labia majora, we prefer naming this condition as Interlabial Fusion (IF). The word of “inter” means as “between” in Latin (7).

RESULTS

A total of 86 patients were included. The mean reference age was 16 (3-84) months. The most frequent cause of the admission (n=64) was the labial fusion detected in the routine examination, while 20% of the patients with labial fusion (n=16) had complaints (post-void dripping (n=4), recurrent urinary tract infection (n=4), urinary incontinence (n=2), restlessness in the course of urination (n=3), abnormal urinary stream (n=3)). The incidence of labial fusion in our clinic was 1.3% (unpublished medical record).

Of these 86 patients 6 were admitted due to malodorous vaginal discharge and vulvar pruritus. Two of them were under 4 years of age (36 and 40 month) and ascaris infestation was detected in these patients. At the end of one year follow up, there are no any symptoms and clinical problems in these patients.

Four of the six patients with vaginal discharge and vulvar pruritus were admitted directly to our pediatric surgery outpatient clinic, as at all of them symptoms had recurred after treatment at different hospital. These four patients had abnormal adhesions between the labias. These patients were defined as interlabial fusion. Two of the patients were 5 and the other two were 6 years old. Complaints of patients started about 5 (3-8 months) months ago. According to the anamnesis, antibiotic and antihistaminic treatment, also sit bath treatment had been started in a different center where patients were admitted with complaints. During treatment symptoms were reduced, but it was recurred shortly after the treatment.

The patients with IF had no additional anatomical or laboratory problems. Internal surface of labia minora and vulva lost their characteristic pink color and became dull. Furthermore, there was marked dryness in the labia minora and vulva. Topical steroid therapy (Betamethasone ointment) was started in each of the four patients. All of the patients were fully recovered at the end of third week. Manual or surgical separation treatment was not required in any of the patients. After treatment, at the end of one year follow up, there were no any symptoms and clinical problems in these patients.

DISCUSSION

LF is a common gynecologic problem in childhood. It is not present at birth, occurring most commonly between 6 months and 2 years of age (5). LF is thought to be more common than outpatient presentations suggest as examinations are rarely performed on pre-pubertal girls after infancy, except when indicated by symptoms. Therefore, it is very difficult to predict the actual incidence of the LA. The incidence of LA in the literature ranges from 0.6 to 5% [3,5,10,11]. The incidence of LF in our clinic was 1.3%.

LF is probably associated with the hypoestrogenic state of the prepubertal girls. There are some reasons to think that way; first of all, LF is very uncommon in the newborn period when there is a period of mini-puberty. On the other hand, LF is very uncommon during the post-puberty when there are adequate estrogen levels (8). These estimates and studies are the main reason for the use of topical estrogen in LF therapy. But, some studies are against the idea that mentioned above (9). Topical estrogen use can cause systemic absorption and breast budding, and overuse of topical steroids can cause local skin thinning. Because of this reason above, as well as due to success in our phimosis patients, we prefer betamethasone use in topical treatment of labial fusion.

LF usually defined as fusion of the labia minora in the midline. But, because of sticking can be seen between labia majora too, some authors define the LF as fusion of the labia minora or majora (12). In our practice we observed the third type of fusion; fusion of labia minora to the labia majora. Interlabial fusion is a rare condition. Only 4.7% of our LF patients had interlabial fusion. Probably some/or most of them are asymptomatic and for this reason the actual prevalence is higher. In particular, if the child is very agitated during the examination, it may be very difficult to detect the interlabial fusion. Most likely the pediatricians saw IF in their practice, but they ignored it because they thought there was no clinical significance.

We think, as in other types of labial fusion, interlabial fusion is a result of inflammatory process too. This inflammation can affect both labia minora and labia majora and cause them to stick. It may be impossible to detect the cause of the inflammation at that moment. The differential diagnosis for etiology of inflammation includes lichen

sclerosus, lichen planus, psoriasis, eczema, and contact dermatitis. But the most important ones are lichen sclerosis and lichen planus. With skin changes in patients with lichen sclerosis, genital scarring may occur which can result in labial and clitoral hood adhesions. "The characteristic clinical appearance of lichen sclerosis is of ivory white or rose colored plaques. The border is often distinct, and the affected lesion can spread to the perineal skin and perianal region causing a classic "figure of eight" shape. The plaques can be atrophic with a shiny or crinkled "cigarette paper" appearance or can be thickened due to hyperkeratosis as a result of repeated excoriations" (13). None of our patients had skin changes described above. Furthermore, vaginal discharge is not usually seen in lichen sclerosis (there were no additional laboratory and examination findings to explain the vaginal discharge at that time), and adhesions usually develop in the advanced stage of the disease (14). However, none of the patients had a history of severe lichen sclerosis.

We have not considered labial fusion as a separate disease. In our opinion, IF may be a result of different diseases affecting the genital area. At admission, IF may be the only symptom of the primary diseases described above. If there are no additional findings for differential diagnosis, it would be correct to define IF as a separate subtype.

As a number of patients were insufficient, we could not perform a statistical study, but, because all of the patients were fully recovered at the end of third week with topical betamethasone treatment, we think that the first step of treatment of interlabial fusion should be topical betamethasone.

Last of all, labial fusion is a fusion usually of the labia minora, sometimes of the labia majora or rarely labia minora to the majora.

CONCLUSION

Interlabial fusion is a rare condition, but it is not a separate disease. IF may be a result of different diseases affecting the genital area. It should be bring to mind in patients presenting with complaints of vaginal discharge and pruritus, especially if this complaints are recur. Topical steroid therapy should be started as an initial treatment. To our knowledge, this is the first description of this type of labial fusion in pre-pubertal girls in the literature.

Competing interests: The authors declare that they have no competing interest.

Financial Disclosure: There are no financial supports

Ethical approval: This work has been approved by the Institutional Review Board.

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