

Awareness about labia minora fusion among Lebanese pediatricians

Myriam Amm^{1,2}, Valeria Modica^{1,2}, Mode AIOjaimi³, Hala Feghali^{1,2}, Joelle Mardini^{1,2}, Marie Claude Fadous Khalife^{1,2}

¹Holy Spirit University of Kaslik, Kaslik, Lebanon

²UH-Notre Dame Des Secours, Jbeil, Lebanon

³Balamand University, Koura, Lebanon

Abstract

Abstract: The three main objectives of this study are to assess awareness about labia minora adhesion among Lebanese pediatricians, evaluate the number of those who perform a systematic gynecological examination in young girls and describe the management of this pediatric pathology in Lebanon in comparison with the literature review.

Materials and methods: This is a cross-sectional descriptive study conducted in 2014 through a questionnaire that was answered by 117 pediatricians practicing in the different Lebanese regions. The data was analyzed on “Microsoft® Excel® 2013” in order to meet the three pre-described objectives.

Results: 41% of the 117 pediatricians were familiar with the pathophysiology of labial adhesion. The lowest rates of awareness about this condition were reported in the South (7%) and Bekaa (13%). 80% of pediatricians routinely examine the female’s genitals. 26% of male pediatricians do not systematically examine female genitalia compared to 7.5% of female pediatricians ($p=0.02$). 73% of the cases were discovered on a routine, systematic physical examination. The adhesion of the labia minora is associated in 23% of the cases with a urinary infection and in 16.65% with genitourinary symptoms. 9% of pediatricians made the diagnosis following the discovery by the mother. 83% of the doctors handled the case without a pediatric gynecology consult and then 42% referred the patient at a later time (to a pediatric surgeon in 82% of the cases). 17% initially adopt a conservative attitude; 75% apply creams with a recurrence rate of 16%. The highest rate of recurrence was observed in the case of manual separation (21%).

Conclusion: The adhesion of labia minora is a common, benign, commonly asymptomatic, poorly recognized and underestimated condition in Lebanon. 1/5 of pediatricians, mainly males, do not examine the genital area of girls. 75% of the pediatricians resort to estrogenic creams or corticosteroids, and 17% are conservative.

Keywords

Awareness, labia minora fusion, Lebanese pediatricians.

Corresponding author

Marie Claude Fadous Khalife, Holy Spirit University of Kaslik, Kaslik, Lebanon; UH-Notre Dame Des Secours, Jbeil, Lebanon; email addresses: mclaud454@hotmail.com, marieclaudedefadous@usek.edu.lb.

How to cite

Amm M, Modica V, AIOjaimi M, Feghali H, Mardini J, Fadous Khalife MC. Awareness about labia minora fusion among Lebanese pediatricians. *J Pediatr Neonat Individual Med.* 2019;8(2):e080204. doi: 10.7363/080204.

Introduction

The adhesion of labia minora is a fibrous fusion between the two mucus surfaces of the labia minora. It is a non-congenital benign pathology in prepubertal girls [1, 2]. Its incidence is 1.8-3.3%, and it is mainly secondary to low estrogen and local irritation that lead to a re-epithelialization of the strictly opposed labia minora resulting in midline adherence. The girls are often asymptomatic but can present with genitourinary problems (urinary symptoms, vulvovaginitis, and pain). The diagnosis relies on the physical exam without the need for additional investigation. The clinical examination will serve to eliminate the differential diagnoses of notably imperforate hymen, vaginal atresia, and female pseudo-hermaphroditism. Treatment is controversial, although most current guidelines agree that it is unnecessary to treat asymptomatic adhesion because the spontaneous correction is achieved in the early puberty. However, because there are no large randomized trials on the management of labial adhesions that clarify the ideal treatment, therapeutic alternatives are diverse and vary by school. They range from simple observation to the application of emollient or estrogenic cream or corticosteroid, to manual separation with or without estrogen cream and finally surgical separation [1, 3, 4].

Material and methods

This is a simple cross-sectional descriptive study of general and sub-specialized pediatricians practicing throughout the Lebanese territory. On

April 2014, there were 911 pediatricians registered in the Lebanese order of medicine. The sampling was conducted using the random cluster sampling method where the population is distributed in governorates or cazas. Their numbers were provided by their respective hospitals. One hundred twenty-seven pediatricians were interviewed. The distribution of these 127 pediatricians by region of practice was: 16 in the North, 45 in Mount Lebanon, 36 in Beirut, 15 in the South and 15 in the Bekaa. Ten pediatricians were excluded from the study: 1 was lost to follow-up, and 9 refused to complete the questionnaire immediately (condition that we have imposed beforehand). Of the 117 pediatricians included in the study, 107 filled the questionnaire, and 10 returned it empty admitting to ignoring the topic. These have been included in our statistics. The data was obtained by a questionnaire sent to the pediatricians after informing them of the purpose of the study. We ensured the immediate filling of the questionnaire and its anonymity. The questionnaire is available in English and French and includes 14 questions (**Appendix A**). The data was analyzed on “Microsoft® Excel® 2013”.

Results

41% of the 117 pediatricians included in the study were familiar with the adhesion of the labia minora. Their distribution by geographic region was: 40% in the North, 57% in Mount Lebanon, 45% in the capital, 7% in the South and 13% in Bekaa. The remaining 59% were divided into three groups: 10% confused labia minora with major, 5% had insufficient knowledge, and 44% ignored the subject.

Note that 80% of pediatricians admit to routinely examine the genitals of a girl patient, while 20% do not. The highest rate is found in South and Mount Lebanon while the lowest rate is in Bekaa.

Of the 117 pediatricians included, 77 are men (66%) and 40 women (34%). 26% of male pediatricians do not systematically examine female genitalia compared to 7.5% of female pediatricians (3.5 times less) with a significant difference ($p = 0.02$). 12.5% of pediatricians familiar with this condition do not routinely examine the genitals versus 24.6% of those not familiar with it.

82% of diagnosed patients were asymptomatic, whereas 13% had associated symptoms related to

urinary tract infection. The parents discovered 9% of the cases, 73% were discovered on a routine physical examination and 5% after other symptoms. The 73% of cases discovered during the systematic examination are divided into isolated coalescence (39%) and associated with urinary tract infections or vulvar or vaginal signs (34%).

Regarding the management of patients: 83% of pediatricians manage the patients on their initiative without any referral, then 42% refer at a later time: in 82% of the cases to a pediatric surgeon, in 12% to a gynecologist, in 2% to a pediatric gynecologist; note that 4% of the pediatricians did not answer this question.

Regarding treatment, 83% of pediatricians initiated treatment at the time of diagnosis. The therapeutic modalities are distributed as follows: conservative management in 17% of cases, topical creams in 75% of cases, manual separation in 19%, surgical separation in 15%, hygiene advice in 8% of cases and sitz baths in 4% of cases. Some pediatricians adopt multiple modalities of treatment. For the creams used, 47% were estrogen cream, 5% antibiotic cream, 3% corticosteroid cream and 3% emollient cream. In 42% of the cases, the kind of cream was not specified.

The recurrence is 10% with conservative treatment, 16% with creams, 21% with manual separations and 15% with surgical separation. The average recurrence rate is 16%. The time of recurrence was not specified in the questionnaire.

Discussion

Since the diagnosis of coalescence of the labia minora is purely clinical, a non-rigorous examination or a lack of awareness about this entity will lead to a missed diagnosis.

20% of Lebanese pediatricians do not perform a routine physical examination of the external genitalia in pediatric female patients. The highest rate is found in the Bekaa region.

The results in our study show a discrepancy between the high rate of the pediatricians who examine the genital area in girls routinely and the relatively low rate of those familiar with the pathology. Therefore, the number of pediatricians who do not perform a genital examination might be underestimated in our study. Male pediatricians perform this examination 4 times less than female pediatricians, highlighting a socio-cultural barrier [5]. Our study does not aim to study the incidence of pathology in the Lebanese population because of the small size of our sample. In 82% of cases, coalescence is asymptomatic; in 13% of the cases, it is associated with a urinary infection, versus 20% in the literature. 9% of pediatricians made the diagnosis after the mother reported it. No serious complications were found, such as hydronephrosis with urinary retention. Regarding the management, 83% of the pediatricians did not refer initially the patient and managed it on their own. In our study, only 2% of the pediatricians referred to a pediatric gynecologist: this highlights the fact that more information should be diffused through the Lebanese order of physicians to support new emerging pediatric subspecialties in Lebanon.

The treatment of labial adhesion is controversial, and a clear international guideline has not yet been established. All published studies, as shown by a review of the literature (**Tab. 1** and **Tab. 2**), are retrospectively conducted, and no randomized controlled trials have been published till nowadays. Even if a spontaneous resolution has been confirmed [6, 7], the decision to treat depends on several elements such as the presence of symptoms, the degree of labial fusion, parental concern, pediatrician's awareness of this medical entity, availability of pediatric gynecologists or pediatric surgeons when needed.

As demonstrated by Pokorny et al. [7], the spontaneous resolution of the labial adhesion can reach 80% by 1 year after the diagnosis especially

Table 1. Results and recurrence rate with conservative management (hygiene with hydration = avoidance of soaps, bubble baths, restrictive clothing and daily sitz baths) +/- bland cream (petroleum jelly or vitamin A + D ointment).

Article	No. of patients treated	Spontaneous resolution	Relapse
Pokorny, 1992 [7]	10	80% of labial adhesions will resolve spontaneously within a year after they are diagnosed	20%
Norris et al., 2018 [6]	8/20	40% at 2 years	40% (all prepuberal girls)

Table 2. Percentage of used treatment, efficacy of treatment and relapse rate according to the different kind of therapy.

Article	No. of patients	Estrogen			Beclomethasone			Estrogen + beclomethasone		Manual separation		Surgery	
		Resolution	Duration of therapy (medium of months)	Relapse	Resolution	Duration of therapy (medium of months)	Relapse	Resolution	Relapse	Resolution	Relapse		
Different articles (including Muram, 1999 [13])		50-91%			68% (4-6 weeks)				81%				
Bacon et al., 2015 [1]										47%			
Nurzia et al., 2003 [11]	9										100%		0%
Leung et al., 2005 [9]	20	100%	2.4	0%									
Schober et al., 2006 [8]	107	79%	3.7	41% (range 2 to 72 months)									
	22												10% (also with post-operative topical estrogen)
Soyer, 2007 [10]	18	66.6% at 3 months 55.5% at 9 months	14 days	11%					85.7%	14.2%			
	14								100% (with postoperative prophylaxis with estrogen 5 days)	0%			
Mayoglou et al., 2009 [14]	146	71.2%	2.2	35%									
	19				78.9%	1.25	15.8%						
Eroglu et al., 2011 [3]	43												26%
	71	15.4%	1										
Wejde et al., 2018 [12]	32				15.6%								
	28						28.5%						
	48	50%	≤ 1 month	21%									
	37	51%	> 1 month	37%									
	30								97%	28%			

in pre-pubertal age, and the recurrence rate has been reported to be next to 20%.

Most doctors decided to interfere without a conservative treatment despite the low percentage of symptomatic girls (20% vs 13%). This may probably indicate a lack of knowledge of the pathophysiology of the disease among Lebanese pediatricians. In Lebanon, failure of spontaneous resolution of labia minora adhesion is 10% with the conservative approach.

Topical estrogenic creams remain the first commonly used treatment approach [8-10]. Data on mode and frequency of application and duration of treatment are often missing. These parameters are essential for the reduction of recurrence [11]. There is no reported use of emollient cream after medical treatment, manual or surgical separation in order to prevent recurrence [12].

The range of patients treated by topical estrogens varies from 15% to 100%. Estrogen recurrence rate varies between 0% and 41%. Similarly, in our study, topical estrogen creams are often used as a first-line treatment, and our relapse rate is similar to the one observed in the literature.

Topical steroids (beclomethasone 0.005%) has been sometimes used as reported by Mayoglou et al. [13, 14] with a relapse rate around 15%. Our studied Lebanese population used steroids only in 3% of cases.

The combination of local estrogen and steroids have not shown to improve the outcome of the disease as demonstrated by Eroğlu et al. [3]. Lebanese pediatricians did not use this kind of treatment.

Pediatric gynecologists should perform the manual separation of the labia with topical anesthetic or sedation. It is a first-line therapy in severe labial adhesion [1]. It may be a second-line therapy if conservative treatment fails. In our study, the overall recurrence rate is estimated to be 16% and the highest percentage (21%) for the manual separation technique (versus 14% according to Soyer). The use of estrogenic cream post manual separation, to prevent recurrence as described by Soyer, has not been tried in Lebanon [15].

Surgical repair is often considered as the last treatment option [11]. Surgical repair means the use of a Q-tip® through the labial opening adhesions. Surgical interventions accounted for 15% of cases with a relapse rate of 15%. This data conforms to the literature (**Tab. 2**).

Our study presents some limitations such as the absence of an epidemiologic conclusion because of the small size of the studied sample. Concerning the treatment, we have no information about the severity of labial adhesion that may affect the pediatrician's management of the patient.

Conclusions

Our study presents some interesting points. It is the only study in the literature that analyzes awareness about labial adhesion among pediatricians. Although the small sample size is not nationally representative, all results show an overall lack of awareness about this medical entity. As published in the literature [6], this does not apply only to Lebanon Awareness campaigns and conferences about labial adhesion should be done in order to avoid useless and sometimes harmful treatment.

Declaration of interest

Authors declare no conflict of interest.

References

1. Bacon JL, Romano ME, Quint EH. Clinical Recommendation: Labial Adhesions. *J Pediatr Adolesc Gynecol.* 2015;28(5):405-9.
2. Rubinstein A, Rahman G, Rizzo P, Ocampo D. Labial adhesions: Experience in a children's hospital. *Arch Argent Pediatr.* 2018;116(1):65-8.
3. Eroğlu E, Yip M, Oktar T, Kayiran SM, Mocan H. How Should We Treat Prepubertal Labial Adhesions? Retrospective Comparison of Topical Treatments: Estrogen Only, Betamethasone Only, and Combination Estrogen. *J Pediatr Adolesc Gynecol.* 2011;24(6):389-91.
4. Myers JB, Sorensen CM, Wisner BP, Furness PD 3rd, Passamaneck M, Koyle MA. Betamethasone Cream for the Treatment of Pre-Pubertal Labial Adhesions. *J Pediatr Adolesc Gynecol.* 2006;19(6):407-11.
5. Melek E, Kılıçbay F, Sarıkış NG, Bayazıt AK. Labial adhesion and urinary tract problems: The importance of genital examination. *J Pediatr Urol.* 2016;12(2):111.e1-5.
6. Norris JE, Elder CV, Dunford AM, Rampal D, Cheung C, Grover SR. Spontaneous resolution of labial adhesions in pre-pubertal girls. *J Pediatr Child Heal.* 2018;54(7):748-53.
7. Pokorny SF. Prepubertal vulvovaginitis. *Obs Gynecol North Am.* 1992;19:39-58.
8. Schober J, Dulabon L, Martin-Alguacil N, Kow LM, Pfaff D. Significance of Topical Estrogens to Labial Fusion and Vaginal Introital Integrity. *J Pediatr Adolesc Gynecol.* 2006;19(5):337-9.

9. Leung AK, Robson WL, Kao CP, Liu EK, Fong JH. Treatment of labial fusion with topical estrogen therapy. *Clin Pediatr (Phila)*. 2005;44(3):245-7.
10. Soyer T. Topical estrogen therapy in labial adhesions in children: therapeutic or prophylactic? *J Pediatr Adolesc Gynecol*. 2007;20(4):241-4.
11. Nurzia MJ, Eickhorst KM, Ankem MK, Barone JG. The surgical treatment of labial adhesions in pre-pubertal girls. *J Pediatr Adolesc Gynecol*. 2003;16(1):21-3.
12. Wejde E, Ekmark AN, Stenström P. Treatment with oestrogen or manual separation for labial adhesions – initial outcome and long-term follow-up. *BMC Pediatr*. 2018;18(1):104.
13. Muram D. Treatment of prepubertal girls with labial adhesions. *J Pediatr Adolesc Gynecol*. 1999;12(2):67-70.
14. Mayoglou L, Dulabon L, Martin-alguacil N, Pfaff D, Schober J. Original Study Success of Treatment Modalities for Labial Fusion: A Retrospective Evaluation of Topical and Surgical Treatments. *J Pediatr Adolesc Gynecol*. 2009;22(4):247-50.
15. Goldman RD. Child Health Update. Estrogen cream for labial adhesion in girls. *Can Fam Physician*. 2013;59(1):37-8.

Appendix A. The questionnaire sent to the pediatricians.**QUESTIONNAIRE**

1. The coalescence of lips is defined by the fusion of:
 - a. Big lips
 - b. Small lips
 - c. Lips
 - d. Imperforate hymen
2. Age of appearance:
 - a. Adolescence
 - b. Newborn
 - c. From 3 months to 10 years
 - d. Only > 2 years
3. The most frequently recognized reasons are:
 - a. Heritability
 - b. Congenital malformation
 - c. Hormonal
 - d. Local irritation
4. As far as the coalescence of lips is concerned:
 - a. Rare b. Frequent
 - a. Benign b. Serious
 - a. Symptomatic b. Asymptomatic
 - a. No spontaneous resolution b. Spontaneous resolution
5. Therapeutic options are:
 - a. Conservative treatment
 - b. Local treatment
 - c. Manual separation
 - d. Surgical separation
6. Frequent complications:
 - a. No complications
 - b. Cancer complications
 - c. Infections
 - d. Sterility
 - e. Psychological consequences
7. Your practice in pediatrics:
 - a. < 5 years b. 5-10 years c. > 10 years
8. Do you systematically examine a girl's genital organs?
 - a. Yes b. No
9. The number of cases seen in your practice?
 - a. 0 b. from 1 to 5 c. from 6 to 10 d. > 10
10. How did you discover the lip coalescence?
.....
11. Which signs or symptoms were associated with it?
.....
12. Did you take care of it yourself?
 - a. Yes b. No
 Did you refer the case to a specialist?
 - a. Yes b. No
13. Which were the treatments provided?
.....
14. How do you estimate the rate of recurrence (in percentage)?
.....