


## Bartholin's Gland Abscess : A Rarity In A Neonate

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### Abstract

Bartholin's gland cyst and abscesses are exceedingly rare in females before puberty. Authors report a case of Bartholin's gland abscess in a neonate.

we report the case of a 21-day-old infant with Bartholin's gland abscess. Spontaneous rupture of this abscess may occur, which progressed favourably under antibiotic therapy.

### Keywords

- Abscess,
- Bartholin's Gland
- Glandchildren

The diagnosis of Bartholin's gland abscess should be considered in any child presenting with inflammatory swelling of the labia majora and confirmed by perineal ultrasound.

## Introduction

Bartholin's gland cysts and abscesses are commonly found in fertile women with an incidence of approximately 2% in all women. They are rare before puberty and extremely rare in the neonatal period. Most of the described cases in the literature occurred in infants and older children<sup>1-4</sup>. Only two neonatal cases have been reported in literature<sup>5-6</sup>. The diagnosis is suspected in the presence of labia majora inflammation. If the management is well codified in adulthood, in prepubertal children predicting factors, laboratory tests, imaging, and therapeutic indications are still unknown.

This work aims to present a singular case of Bartholin's gland abscess in the neonate and to make a review of the literature to better understand the etiopathogenic, the clinical presentation, the investigations, and the gold standard treatment of this rare condition in childhood.

## Case presentation

A 3-week-old female newborn presented to our attention because of labia majora swelling.

She was born at term by spontaneous vaginal delivery after an uncomplicated

pregnancy. Nothing special was reported beforehand except for a fever treated by her parents with Paracetamol with good results.

Physical examination revealed a tender, floating erythematous swelling in the lower half of the left labia majora (**figure 1**). The patient's urethral meatus and vaginal introitus were normal. She had no vaginal leukorrhea or bleeding. Inguinal lymphadenopathy was found.

Laboratory tests reported a PCR of 48 mg/l and a white blood cell count in range. A perineal ultrasound demonstrated an anechogenic ovoid formation estimated to be 1.9 ml at the vulvar level (**figure 2**).

The baby was hospitalized and treated with 7 days of antibiotic therapy (Amoxicilline). 3 days after, it spontaneously evacuated. No bacterial growth was seen in the culture. A daily hexomedine dressing was performed with the healing of the operative wound. The patient was reevaluated 1 week after, she was in good general condition, healing wound was perfect with no erythema and tenderness. The patient was followed up for 6 months and no recurrence was observed.



**Figure 1 :** A 21 days old female presented with a swelling involving most of the left labia



**Figure 2 :** A perineal ultrasound shows an anechoic oval formation of 1,9 ml at the vulvar level

## Discussion

Bartholin's gland abscess is rare in children. Few cases have been described in Literature (**table 1**): only eight cases of vulvar abscess have been reported in infants, and two of them occurred in the neonatal period<sup>4-8</sup>.

Bartholin's glands are outgrowths of the urogenital sinus and are the female corresponding Cowper's glands. At puberty, these glands start to function providing moisture for the vestibule<sup>2-3</sup>.

The pathogenesis of Bartolini's gland abscess is well explained in adults: obstruction of the ducts of Bartholin's gland is the main cause. Firstly a cyst occurred and then it became infected with the development of an abscess. Sometimes the abscess can form directly without passing to the stage of an infected cyst<sup>3</sup>. On the other hand, the etiopathogenesis of Bartolini's gland abscess remains unknown in children. No risk or predictive factors have been described in the pediatric population yet, but some authors have mentioned a congenitally narrowed duct<sup>9</sup>. Kubbitz et al. Have hypothesized a possible role of the estradiol peak in the second month of life and Singh et al

proposed maternal urogenital infections as a predisposing factor for Bartolini's gland abscess<sup>1-10</sup>. Data are still controversial: if Chavaria et al, found a vaginal infection with *Trichomonas vaginalis* in a case of Bartolini's gland abscess on the other hand, Kady et al. did not find similar results<sup>5-6</sup>. The clinical presentation generally involves inflammatory swelling in the posterior third of the labia majora, exactly as our case report described. Our patient had a fever too, but most of the literature published articles did not mention this sign<sup>5-6</sup>.

While in adults, inflammatory biomarkers neutrophil hyperleukocytosis elevated sedimentation rate, and PCR is found, in the pediatric reports blood count are usually on the range<sup>4-6</sup>, such as for our case.

Perineal ultrasound can confirm the clinical suspicion and define the configuration, characteristics, and location of the abscess in the Bartholin gland<sup>5-6</sup>. We used the same radiological imaging to define our neoformation.

The bacteriological exam gave us different and in most cases unspecific results, in some cases no germs are found (**table 1**).

**Table 1 :** the case of Bartholin's gland abscess in prepubertal females

Authors	Age	year	Treatment	Isolated organism (s)
Chavarria et al <sup>5</sup>	3 jours	1989	Incision drainage with antibiotic	E. coli
Kady et al <sup>6</sup>	30 jours	2007	Incision drainage with antibiotic	-
Schauffler et al <sup>11</sup>	6,5 sem	1939	Incision drainage without antibiotic	-
Kubitz et al <sup>10</sup>	5 sem	1986	Incision drainage without antibiotic	E.coli Peptococcus
Singh et al <sup>1</sup>	3 mois	2010	Incision, drainage with antibiotic	E. coli
Emst et al <sup>7</sup>	3 mois	1998	Incision, drainage with antibiotic	E.Coli et K. pneumonia
Rhevati et al <sup>8</sup>	9 mois	2007	Incision, drainage with antibiotic	Coagulase negative staphylococcus
Radhakrishna et al <sup>3</sup>	7 years	2017	Incision, drainage with antibiotic	-
Our case	21 jours	2022	Antibiotic and spontaneously ruptured)	-

Bartholin's gland abscess must be differentiated from other vulvar masses : inguinal hernia, hydrocele of the canal of nuck, meconium hydrocele, congenital labial cyst, epidermal inclusion cyst (sebaceous cyst), dysontogenic cyst, hematoma, lipoma, leiomyoma, teratoma, sarcoma and lymphangioma <sup>1-3-6</sup>.

Management of Bartolini's gland abscess in children should be the same as that proposed for adult patients. There are different therapeutical options : aspiration and alcohol sclerotherapy, curettage of the abscess cavity, placement of word catheter, application of silver nitrate to the abscess

cavity, carbon dioxide laser excision, and surgical excision<sup>1</sup>.

Spontaneous rupture of the abscess may occur. This is the case of our patient, but also the case described by Kubizs et al., a large spectrum antibiotic therapy has to be started and the unit needs to be focused based on the results of the antibiogram<sup>10</sup>.

Bartholin's gland abscess has been reported to have a recurrence up to 38% in adults, spontaneously rupture may increase the recurrence index<sup>1-3</sup>. Luckily in pediatric patients, there is no evidence of recurrence<sup>1-8</sup>. Our results are perfectly in line with these data.

### **Conclusion**

Bartholin's gland abscess is therefore a rare infectious pathology in a pediatric population. This diagnosis should be considered in the presence of inflammatory swelling of the labia majora. The suspected diagnosis may be evaluated by the perineal

US. For now, the same management proposed for adult patients can be proposed for children: antibiotics and surgical incisions are the most effective therapeutical option. Positive predictive factors for Bartholin's gland abscesses in pre-pubertal children are still unknown.

### **Ethical Consideration**

written informed consent was obtained from the parents for publication of this case report and any accompanying images.

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### **Conflict of interests**

There is no conflict of interest

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