

# Gingival and Palatal Cysts of the Newborns between Surgical and Conservative Treatment

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**Abstract**— Submucosal cysts of the gingiva show as a fixed soft surfaced node with a blanched appearance<sup>2</sup>. This paper aimed to investigate the necessity of surgical and conservative treatment of gingival and palatal cysts of the newborns. A two years prospective study was conducted between 2015 and 2017 at Al- Qurayyat General Hospital Al- Jouf. A total of 3000 newborns were examined. Over a period of two years, a total of 160 newborns with gingival and or palatal cysts were diagnosed during routine examination of the newborns at Al-Qurayyat General Hospital Al-jouf. Patients were followed up for a period of 10 months. The results showed that the total observed cyst 63% of them were broken by themselves after one week. While, 8% broke between the ages of 3-4 months, 10% at the age of 6 months, while 6% of them at the age of 8 months and only 4% required surgical treatment. The study was concluded that the majority of gingival and palatal cysts of the newborns will be resolved by themselves by the age of 8 months. Just reassurance, conservative and regular follow-ups of the newborn is all what is needed. Surgical treatment was needed in minority.

**Keywords**— Palatal and gingival cysts, newborn, resolution

## 1 INTRODUCTION

Submucosal cysts of the gingiva show as a fixed soft surfaced node with a blanched appearance<sup>2</sup>. In addition, neonatal gingival and palatal cysts are well described in the previous studies.<sup>1,2,3</sup> However, Bohem and Epstein were the first who described cysts on the palatal and alveolar ridges of neonates<sup>4</sup>. Even Palatal cysts are somehow larger and less numerous than the gingival cysts. Yet, the two entities are otherwise clinically identical. Both gingival and palatal cysts are true cysts as they are lined by thin epithelium and show a lumen usually filled with desquamated keratin and occasionally containing inflammatory cells. Dental laminal (gingival) cysts may be incorrectly diagnosed as natal teeth if present in mandibular anterior region. The reported prevalence of neonatal palatal and gingival cysts is about 65-85%.<sup>5,6,7,8,9,10</sup>

## 2 OBJECTIVE

The aim of this study is to investigate the necessity of surgical and conservative treatment of gingival and palatal cysts of the newborns.

## 3 METHODOLOGY

A total of 3000 newborns were examined. Moreover, newborns that initially had a single or multiple gingival and or palatal cysts were included in the study. But those with cleft lip and /or cleft palate and all with other congenital abnormalities were excluded. However, all included infants were referred to periodontics for confirmation of the diagnosis. Equally important, further evaluations were conducted by neonatologist and periodontics after every two weeks.

A two years prospective study was conducted between 2015 and 2017 at Al-Qurayyat General Hospital Al-Jouf, KSA (Kingdom of Saudi Arabia). Statistically the main variables were compared, by observing a total of 160 newborns with

gingival and/or palatal cysts. They were diagnosed during routine examination of the newborns. Indeed, patients were followed up for a period of 10 months.

The study was approved by the Local Ethical committee at Al-Qurayyat General Hospital. The aim of the study, the duration of observation, the possible interventions that might be needed and the outcomes, were discussed with the family before the subjects were enrolled in the study. The enrolled babies were followed by both neonatologist and periodontics at well baby clinic.

## 4 RESULTS

Of total 3000 examined newborns 155 (5.16%) were diagnosed initially to have either gingival or palatal cysts. Furthermore, 155 infants referred to maxillofacial surgeon and 149 were confirmed having gingival and /or palatal cysts. While 40 were not included in the study because their parents refused to participate in the study and 109 included in the study yet, 22 infants lost follow up at some point for unknown reasons. A total of 87 (52 males and 35 females) infants completed the study.

Details of the prevalence of cysts, percentage of spontaneous resolution, and surgical intervention can be seen in Tables 1 and 2.

**Table 1.** The prevalence of cysts in the jaws of newborns.

	Gingival cysts	Both gingival	Palatal cysts & palatal cysts
Single cyst	11 (10 %)	8 (8%)	
Multiple cysts	40 (36%)	32 (32%)	24 (13 %)
Maxillary cysts	63 (57%)		15 (9%)
Mandibular cysts	37 (34%)		

**Table 2.** The percentage of spontaneous resolution and surgical intervention.

	Gingival cysts	Palatal cysts	Percent- age %
Spontaneous Resolution			
1 <sup>st</sup> week	56 (51 %)	72 (73%)	62.5%
3 <sup>rd</sup> month	6 (6%)	12 (12%)	8.33%
6 <sup>th</sup> month	31 (29 %)	16(16%)	18.75%
8 <sup>th</sup> month	15 (14%)	0 (0%)	6.25%
Surgical Removal	5	1	4.16%

Only 6 (4.16%) infants needed surgical excision, two of them aged 2 months with gingival cysts, one with palatal cyst at the age of 4 months and 3 infants with gingival cysts at 8 months of age (Table 3).

**Table 3.** Main ratios in the study.

Male: Female	Single: multiple cysts	Gingival: palatal cysts	Maxillary: mandibular cysts	Cysts needed surgery Gingival: palatal cysts
1.5: 1	1:3.8	1.2: 1	1.7: 1	5: 1

## 5 DISCUSSIONS

Neonatal gingival and palatal cysts were first described by Bohlen and Epstein in the 1800s<sup>4</sup> and this study hopefully will be one of the most descriptive studies. Prevalence of neonatal palatal and gingival cysts were mentioned by many authors<sup>5,6,7,8,9,10</sup> to be 65-85%. The prevalence of gingival and palatal cysts among Saudi infants was only (5%). Even other studies indicate no gender difference in the occurrence of palatal and alveolar cysts in newborns; however, our study showed that males were affected more than female (Table 3)<sup>5,7,8,10</sup>.

While Many authors<sup>6,8,9</sup> claimed that palatal cysts occur more frequently than alveolar cysts. Yet, our present study showed that neonatal gingival cysts are more common than palatal cysts (Table 3). Flink et al 1994<sup>9</sup>, stated that most of the palatal cysts disappear soon after delivery. On the other hand, alveolar cysts are likely to disappear during the neonatal period. Prevalence of single cysts in this study was much less common than multiple gingival and palatal cysts of the newborns (Table 3). In this study cysts were found more frequently in the maxilla than in the mandible, with a small percentage of cases presenting cysts in both jaws as showed by Alves KM et al study. Both types of cysts can present together in (13%) of cases. Our study showed that palatal resolution occurs earlier than gingival cyst. Equally important, this finding has been mentioned by Salama et al 2012<sup>11</sup> by the first week of life both types of cysts underwent spontaneous resolution (63 %) and by the age of 8 months few (2 %) of cysts continue to present.

The palatal cysts need less surgical intervention than gingival cysts as showed by this current study (5:1) (Table 3), as most of the gingival and palatal cysts are spontaneously resolved by themselves by the age of 8 months, most of them do not require early surgical excision.

## 6 CONCLUSION

We concluded that the majority of gingival and palatal cysts of the newborns will be resolved by themselves by the age of 8 months. Just reassurance, conservative and regular follow-ups of the newborn is all what is needed. Surgical treatment was needed in minority.

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