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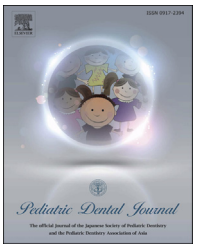

Original Article

Oral abnormalities in an Iranian newborn population

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ABSTRACT

Objective: The prevalence of oral findings in newborn infants in Iran is not known, as only isolated case reports have been published. We determined the prevalence of intraoral findings in a group of newborns and assessed the relationship between these findings and maternal systemic and gestational medical complications during pregnancy and parental consanguinity.

Study design: A total of 995 newborn children were examined in Hafiz Hospital, Shiraz, Iran. Oral cysts, ankyloglossia, an attached upper midline frenum, and other medical diagnoses at birth were investigated. Medical information for each child and parent was recorded via a standard questionnaire. The data were analyzed using the Pearson χ^2 test ($P < 0.05$).

Results: The most common findings were oral cysts (15%). There were significant relationships between oral cyst prevalence and parental consanguinity ($P = 0.009$) and between the presence of at least one finding and medication consumption during pregnancy ($P = 0.04$).

Conclusions: Some 32.3% of the neonates examined had at least one oral finding within 3 days of birth, of which the most common was oral cyst. Parental consanguinity and drug intake during pregnancy were correlated with the occurrence of oral findings.

1. Introduction

A variety of oral mucosal anomalies are found in newborn infants, most of which are transient. Although these anomalies are typically regarded as normal and thus of minor pathological concern, many dental professionals are not aware of these aspects of the oral cavity of infants.

There have been a few studies on the prevalence of these anomalies in different populations. According to previous reports, oral cysts are the most common finding among newborns [1–5]. Other anomalies evaluated include ankyloglossia, Fordyce spots, neonatal teeth, an attached upper labial frenum, congenital vascular malformations, and the relationship of alveolar ridges to commissural lip pits.

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However, limited data are available regarding maternal medical history, consumption of medication, smoking during pregnancy, and parental consanguinity [3].

Oral mucosal cysts in the newborn have been marked by confusing terminology used interchangeably in the literature. Oral cysts, also known as inclusion cysts, gingival cysts of newborn or Bohn's nodules, can manifest as few or many 1–4-mm, white to yellowish, round to oval papules on the maxillary or mandibular gingiva or the alveolar ridges of newborn infants [6,7]. These cysts are very common and a frequency of 79% was reported for Taiwanese neonates examined within 3 days of birth [5].

According to histological origin and location in the oral cavity, Fromm classified oral mucosal cysts as Epstein's pearls, Bohn's nodules, dental lamina cysts, or alveolar cysts of the newborn [8]. All entities are clinically identical and often rupture following examination [7]. It is important that the clinician does not mistake these cysts for natal/neonatal teeth or any other pathology in the newborn and render treatment to the patient as these are transient in nature and disappear within 2 weeks–5 months after birth [4].

Donley and Nelson found that the prevalence of alveolar cysts was significantly lower in premature than in full-term infants [9]. They also found that the prevalence of alveolar cysts increases with gestational age, postnatal age, and birth weight [9]. Alves et al. reported a low prevalence of palatal and alveolar cysts in babies with clefts, but the mean age of the sample included in their study was relatively high [10].

Natal teeth are teeth present at birth, whereas neonatal teeth erupt within the first month after birth (Fig. 1). They may be either part of the primary dentition or supernumerary teeth [7,11]. Although this condition usually occurs sporadically, it has been described in certain syndromes, developmental abnormalities, gingival tumors, and cleft palate [11–13].

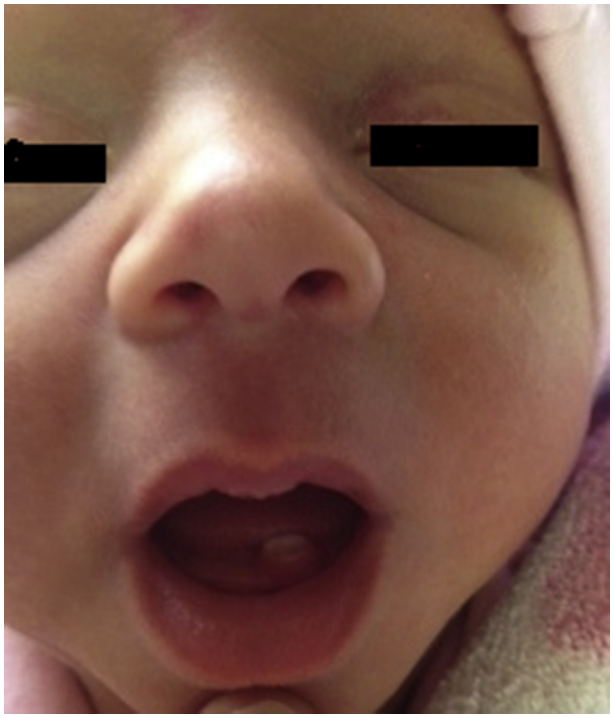

Fig. 1 – Natal tooth.

Ankyloglossia is an anomaly of tongue in which the lingual frenum is short, resulting in limitation of tongue movement [14]. Although this anomaly may be present in all age groups, it is found more commonly in neonates. The prevalence in neonates varies from 1.7% to 10.7%, compared to 0.1–2.1% in adults [7].

Fordyce granules are flat or elevated yellow clusters, most commonly located on the buccal mucosa and vermilion of the upper lip, and represent sebaceous glands. They probably result from hormonal factors [14]. They are harmless and require no treatment.

Commissural lip pits are small mucosal invaginations of the lip at the corners of the mouth that result from a malformation in fusion of the embryonal maxillary and mandibular processes [14]. This anomaly can be associated with preauricular sinuses [15].

For dental practitioners it is important to have knowledge of normal oral characteristics and physiological variations for proper explanation of parental concerns. However, to the best of our knowledge, no epidemiological survey of oral conditions in Iranian newborn infants has yet been published. Hence, the aim of the present study was to determine the prevalence of oral abnormalities in a group of Iranian newborn infants. We also assessed the relationships between and oral findings in the study population and maternal health during pregnancy, gestational age, height, weight, birth complications, parental consanguinity, and medical diagnoses.

2. Materials and methods

A total of 1000 consecutive newborns at Hafiz Hospital, Shiraz, Iran, were recruited for this cross-sectional study between January and July 2012. The research protocol was approved by the Research Ethics Committee of the Shiraz University of Medical Sciences International Branch before the study began (ID = 8591028). Parents were informed in detail about the nature of the trial and all possible consequences, in accordance with the Declaration of Helsinki. Individual voluntary informed consent was signed by competent parents.

Prior to the study, 15 newborn children not included in the main study were examined by the same examiner to standardize diagnostic criteria and set a consensus for the definition of abnormalities. Neonates who required intensive care after birth or whose parents did not sign the written consent form were excluded. Infants were examined by one pediatrician and the oral cavity was evaluated by one of the investigators, a diagnosis specialist. Only visual examination was used for the diagnoses and no biopsies were performed.

Examinations within 3 days after birth involved gently opening the jaws of the neonate and close observation using a gloved index finger, portable lights, mirrors, and disposable tongue blades in the hospital nursery. Normal findings, such as the location of the upper labial midline frenum and alveolar ridge symmetry, and oral anomalies such as gingival cysts were recorded in a standard format. The oral mucosa was systematically examined for any change and the location of anomalies was recorded. Oral mucosal cysts was recorded a