Congenital gum synechiae as an isolated anomaly: a case report

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Congenital adhesions between different parts of the oral cavity rarely occur. These adhesions usually present difficulty in feeding and even respiration soon after birth. In the case presented here the mild form of gum synechia without associated congenital anomaly was treated by excision of the anterior and posterior alveolar bands. Potential jaw and temporomandibular joint development was not compromised and functional problems were eliminated with such a noninvasive procedure.
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INTRODUCTION

Congenital adhesions connecting parts of the oral cavity are rare. Such adhesions can be fibrous and bony, and they may arise between the upper and lower alveolar ridges, or between the tongue and the margins of palate or maxilla. They are almost always accompanied by one or more additional congenital defects, such as cleft palate (CP), cleft lip, microglossia, micrognathia, temporomandibular joint ankylosis (TMJA), or limb anomalies.[1] Several reports have noted multiple cases within families. Isolated gum synechia without additional defects is an extremely rare condition. Only 6 isolated gum synechiae were reported in the literature.[1] The case presented here is a mild form of gum synechiae without other anomalies.

CASE REPORT

An 8-day-old baby girl was admitted to the neonatal intensive care unit with difficulty feeding. She was unable to open her mouth. Her 20-year-old G1P1 AbO mother had a 38-week pregnancy, and the baby had been born by vaginal delivery with breech presentation. The history of the mother included a 5-day course of intravenous antibiotics for a urinary infection in the eighth week of the pregnancy, and although it was not toward the abdominal region, she had a trauma at 22 weeks gestation. The type of antibiotic used for urinary infection could not be determined. The birth weight was 4.10 kg, and her 1- and 5-minute Apgar scores were 8 and 9, respectively. Throughout the first 8 days of life, she was fed only by nasogastric tube.

Physical examination revealed normal head circumference (34.5 cm) and normal eyes, ears and lips. Mandible and maxilla were normal in shape and size. Synechiae were detected in the oral cavity. These included two mucosal bands extending from the hard palate to the anterior portion of the lingual sulcus (Figure 1), and soft-tissue synechiae of the gums in the posterior region of the mouth (Figure 2). There were no dysmorphic findings. Routine hematological studies and urinalysis were normal. Magnetic resonance imaging (MRI) of TMJs confirmed that there were fibrous attachments but no bony fusion (Figure 3).

The anterior and posterior fibrous bands were excised under local anesthesia in a 10-minute procedure, and the baby was immediately able to open her mouth a few millimeters. Finger pressure was then applied to the mandible until the mouth was opened enough for pacifier use and oral feeding. Breast-feeding and jaw exercise with a pacifier was recommended. At 15 days of life, the baby could open her mouth 15 mm (Figure 4). At the time of writing, she was 10 months old and was feeding normally and mouth opening was 22mm.

DISCUSSION

Congenital fusion of the jaws usually causes difficulty with feeding and even respiration soon after birth. This condition can arise secondary to TMJA, maxillo-mandibular synostosis, or gum synechia.[2,3] Hereditary and non-hereditary cases have been reported.

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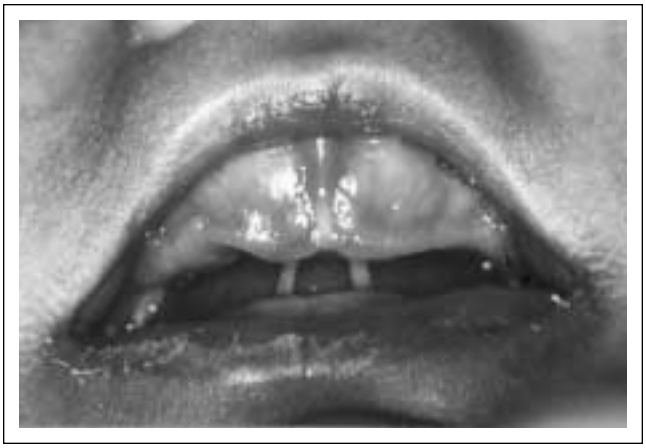

Figure 1. Mucosal bands extending from the hard palate to the anterior portion of the lingual sulcus.

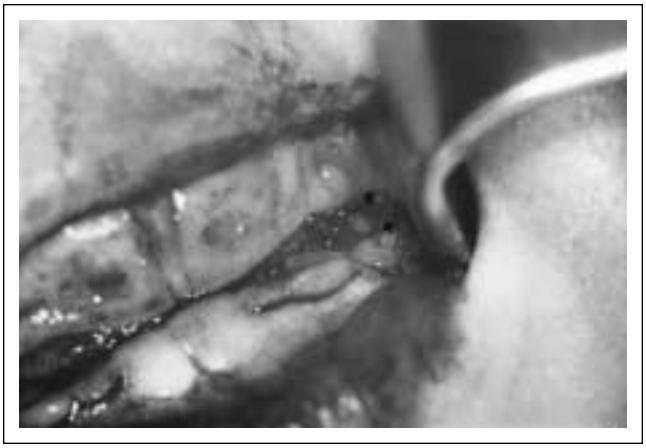

Figure 2. Soft-tissue synechiae of the gums in the posterior region.

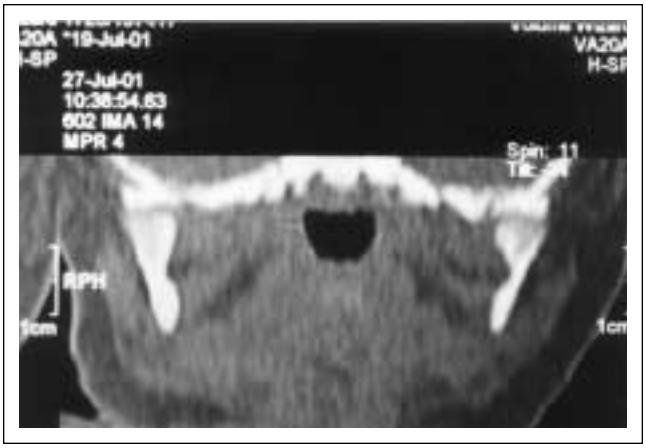

Figure 3. MRI showing that there was no bony fusion.

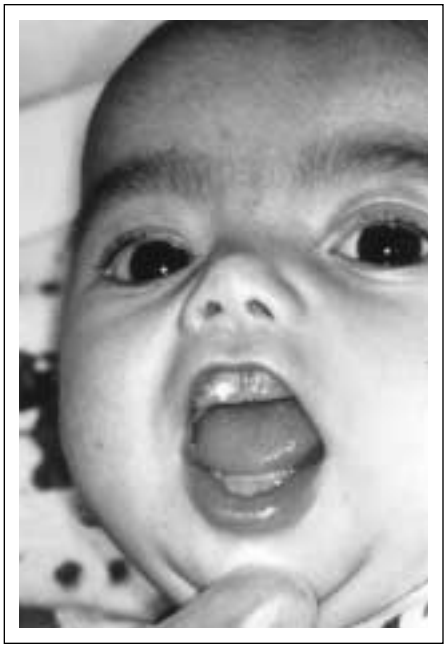

Figure 4. Mouth opening.

Our patient had a mild form of gum synechia. She presented with feeding difficulty, but had no respiratory problems. Such mucosal adhesions are usually observed in association with TMJA, but some cases have developed TMJA secondary to restricted movement or disuse of the temporomandibular joint.[4,5] In our patient, true TMJA was excluded by MRI.

Gartlan *et al*.[1] reviewed 28 cases of the non-hereditary form of gingival adhesions between 1900 and 1990. Sixty-seven percent of these involved fibrous synechiae, and 38% had a bony component. Other anomalies observed in these patients were CP (42%), micrognathia (42%), microglossia (13%), TMJA (25%), and limb deformity (17%). Only 2 of the 28 individuals had no accompanying anomaly.[1]

Anomalous bands of intraoral tissue vary in severity, and it is almost certain that they form due to different causes. One commonly cited etiology is bucco-pharyngeal membrane (BPM) remnant, but this only explains posterior bands between the base of the tongue and the palate. Anterior bands are not BPM remnants; rather, they are anomalous adhesions between adjacent epithelial surfuces.[1]

During the seventh to eight week of embryological development, the alveolar ridges, tongue, and palatal shelves are in contact with each other. The ensuing palatal closure depends on downward contraction of the tongue. When the tongue protrudes from the mouth as a result of medial movements of the oral cavity walls, it prevents the alveolar ridges from fusing. Genetic, teratogenic, or mechanical insults during this critical stage may lead to periods of close, quiescent contact between oral structures, and this predisposes to abnormal fusion. A constellation of anomalies associated with inadequate neuromuscular development of the orofàcial, lingual, palatal, and mandibular structures support this hypothesis. These accompanying conditions include hemifacial atrophy, facial paralysis,

tongue hypomobility, microglossia, CP, and micrognathia. Trauma late in pregnancy, abnormality of the stapedial artery, and teratogenic agents are other reported etiological factors.[6]

In our case, although trauma and antibiotic treatment during pregnancy were present, they were not suspected causal factors in the development of gum synechiae. Because she was not exposed to trauma and antibiotic treatment in critical time, which was the first 7-8 weeks of her pregnancy.

There was no associated congenital anomaly. The alveolar bands were excised, and potential developmental and functional temporomandibular joint problems were prevented by this non-invasive procedure.

REFERENCES

1. Gartlan MG, Davies I, Smith RJH. Congenital oral synechia. Ann Oto Rhinol Laryngol 102: 186-197, 1988.
2. Kamarowska A Congenital temporomandibularjoint ankylosis-a case report. Eur J Orthod 19: 243-248, 1997.
3. Nwoku AL, Kekere-Ekun TA. Congenital ankylosis of the mandible. J Maxillofac Surg 14: 150-152, 1986.
4. Sankayalar F, Tunçbilek E, Kaya S. Congenital fusion of the gums. A case report. J Periodontol 53: 249-250, 1982.
5. Narasiniharao KL, Mitra S, Mitna SK. Congenital fusion of gums with ankylosis of temporomandibular joints. Indian Pediatr 21: 656-657, 1984.
6. Laster Z, Temkin D, Zarfin Y, Kushnir A. Complete bony fusion of the mandible to the zygomatic complex and maxillary tuberosity: case report and review. Int J Oral Maxillofac Surg 30: 75-79, 2001.