# Palatal blue nevus in a child

Catherine M. Flaitz DDS, MS  Georgeanne McCandless DDS

*Dr. Flaitz is professor, Oral and Maxillofacial Pathology and Pediatric Dentistry, Department of Stomatology, University of Texas at Houston Health Science Center Dental Branch; Dr. McCandless has a private practice in The Woodlands, TX. Correspond with Dr. Flaitz at cflaitz@mail.db.uth.tmc.edu*

## Abstract

*The intraoral blue nevus occurs infrequently in children. This case report describes the clinical features of an acquired blue nevus in a 7 year-old girl that involved the palatal mucosa. A differential diagnosis and justification for surgical excision of this oral lesion are discussed. (Pediatr Dent 23:354-355, 2001)*

With the exception of vascular entities, neoplastic lesions with a blue discoloration are an unusual finding in children. Although the blue nevus is a relatively common finding of the skin in the pediatric population, only a few intraoral examples are documented in the literature [1-3]. This case report describes the clinical features of a blue nevus on the palatal mucosa of a school-age child, in addition to providing an age-appropriate differential diagnosis and treatment recommendations.

## Case history

A healthy, 7 year-old Caucasian girl was referred for evaluation of a pigmented growth on the palate. Although it was asymptomatic, there was concern that the lesion was increasing in size since the last dental visit, 6 months ago. A history of a traumatic insult to the posterior oral cavity was denied. Clinical examination revealed a bright blue oval macule with indistinct margins, measuring 7 mm by 4 mm at its greatest dimensions (Fig 1). The lesion was non-blanching and painless to palpation with a smooth and intact mucosal surface. The early mixed dentition was caries-free with pit and fissure sealants on the permanent molars. Based on the clinical findings, an excisional biopsy was recommended during the summer vacation.

The histopathologic findings included a collection of heavily pigmented spindle-shaped cells with branching dendritic extensions, which were found deep in the submucosa. These slender and elongated melanocytes were aligned parallel to the surface epithelium (Fig 2). A diagnosis of common blue nevus was rendered based on these microscopic findings.

## Discussion

Oral nevi are relatively rare with a prevalence of 0.1% in the general population [4]. The blue nevus is the second most frequently diagnosed melanocytic nevus in the mouth, ranging from 19 to 36% of all biopsied nevi [1,2]. Cutaneous lesions are found usually on the dorsa of the hands and feet, followed by the scalp and face. The favored intraoral site is the palatal mucosa, which accounts for up to 75% of the cases, followed by the labial mucosa [1]. Intraoral lesions have a predilection for females in the third and fourth decades, in contrast to cutaneous lesions that normally develop in children. In large biopsy series, only 2% of the oral blue nevi are diagnosed in children and adolescents [1]. Similar to their cutaneous counterpart, most oral lesions are acquired; however, there are isolated reports of congenital examples.

Clinically, most lesions present as a solitary blue, gray or blue-black macule or slightly raised nodule that measures less than 6 mm in size. The margins are often regular but indistinct and the surface is smooth. Blue nevi are typically stable lesions that do not demonstrate changes in appearance or a history of growth. Although limited changes in size are inevitable in a developing child, physiologic conditions that may affect the appearance of a nevus include puberty, pregnancy, systemic corticosteroids, and human growth factor [5]. Not applicable to the present case, sun exposure and blistering diseases can cause cutaneous nevi to exhibit an increase in pigmentation.

Somewhat controversial, conservative surgical excision is usually the treatment of choice for oral nevi. This type of treatment is recommended because the lesion is exposed to constant trauma, is difficult to monitor for changes in size and appearance and clinically, may mimic an early melanoma. Although most cases of oral melanomas arise de novo, rare cases develop within benign melanocytic lesions. Malignant transformation of a blue nevus has been reported in children in the head and neck region, in particular the scalp, but intraoral examples have not been identified [6,7].

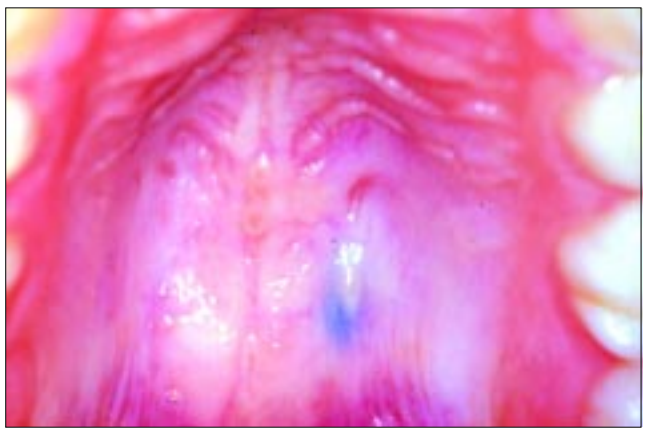

Fig 1. Blue macule of the posterior hard palate.

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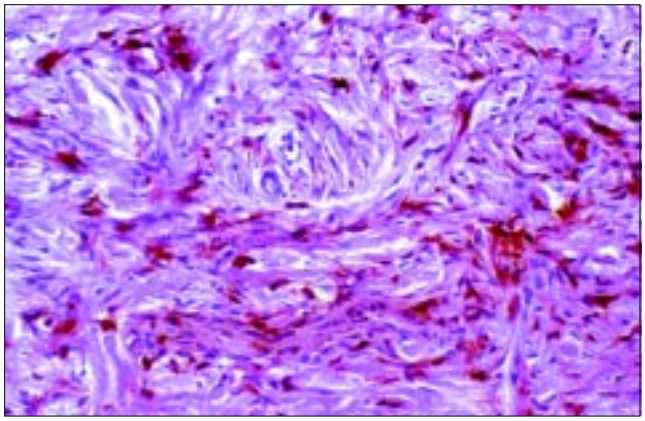

Fig 2. Photomicrograph of a blue nevus (hematoxylin-eosin, magnification 200X).

## Differential diagnosis

Pigmented lesions that have a similar clinical appearance to the blue nevus include a tattoo, melanotic macule and vascular anomaly. Perhaps the most difficult to differentiate from a blue nevus is the tattoo that is caused by the localized implantation of dental amalgam or pencil lead. They present as blue, slate gray or black macules with well-defined or irregular borders. Lateral spread of the foreign body in the submucosa is a worrisome feature because it changes the size and shape of the tattoo overtime. Usually the mucosal surface is smooth but a linear scar or punctate depression may be observed. The most common sites for the amalgam tattoo are the gingiva, alveolar mucosa and buccal mucosa. In contrast, graphite tattoos are observed within the palatal mucosa due to penetrating pencil injuries. Periapical or soft tissue radiographs are usually negative but may reveal pinpoint radiopacities. These tattoos are rarely symptomatic but pencil lead may cause swelling and tenderness because of a foreign body granuloma with lag periods of 5 years or more between the injury and the tissue reaction [8]. Diagnosis may be a challenge because frequently there is no recall of trauma to the pigmented site. No treatment is required for these accidental tattoos, unless they present a cosmetic concern or if a melanocytic neoplasm cannot be excluded.

The oral melanotic macule is a pigmented oral lesion of unknown etiology that is 10 times more common than the oral nevus. It occurs at any age but is seen normally in adults with a female predilection. The classic features include a round, well demarcated, smooth macule that is usually brown in color but may appear blue or black. The vermilion border of the lower lip is the favored site of occurrence, followed by the buccal mucosa, gingiva and palate [9]. They tend to reach a maximum size of less than 7 mm within a short time period and then remain static. Similar to the oral tattoo, no treatment is necessary unless it is an aesthetic problem or a neoplastic disease is a consideration.

Superficially, small vascular anomalies, such as a hemangioma or varix, may resemble the blue nevus. In general, the hemangioma is a common congenital lesion that presents as a red or blue, fluctuant nodule. Blanching under digital pressure is a characteristic feature. In contrast, varices are uncommon in children and have a nodular to tubular shape with a blue hue. The lip and tongue are the most common sites for both of these anomalies.

## Pediatric significance

Although childhood melanoma is a distinct rarity, it is estimated that one in 75 persons born in the year 2000 will develop this malignancy in a lifetime [4]. Some common risk factors include a new or changing nevus, the presence of multiple nevi, light skin color, a family history of melanoma, familial atypical mole and melanoma syndrome, giant congenital nevus, severe childhood sunburns, xeroderma pigmentosum and immunosuppression [4,7]. Recent changes in appearance of any nevus or onset of pain, bleeding, pruritus and ulceration requires further investigation. In the present case report, the size increase of a pigmented palatal lesion, justified the referral for a biopsy. This is especially true since the overall 5-year survival rate for oral melanomas is < 15%, while the surgical biopsy is associated with minimal morbidity [4].

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