Transverse Nasal Crease and Transverse Nasal Milia

Clinical Variants of the Same Entity

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Background: Transverse nasal crease is an uncommonly reported entity. It likely represents an embryologic fault line. Transverse nasal milia have also been reported in the same location, both as an isolated finding and in a transverse nasal crease. This observation suggests they are variants of the same entity.

Observations: Two cases, one of transverse nasal crease with milia and one of transverse nasal milia in the absence of a crease, are reported. A review of the literature on these rarely reported conditions was performed.

Conclusions: It is important for clinicians to be aware of transverse nasal creases, since they may be encountered in a dermatologic practice. Transverse nasal creases, milia in transverse nasal creases, transverse nasal milia, and transverse nasal comedones in the absence of a transverse nasal crease are likely variants of the same entity. They most probably occur because the triangular cartilage and the alar cartilage attach in a linear fashion at the junction of the middle and lower third of the nose. This produces a potential embryonic fault line in which retention cysts presenting as milia and comedones can occur. These clinical presentations merit attention because they are likely much more common than reported.

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REPORT OF CASES

PATIENT 1

A 7-year-old girl with eczema was referred to the Pediatric Dermatology Clinic at the Alberta Children's Hospital. The incidental finding of small “bumps” in a linear configuration across her nose (Figure 1) was also reported by the patient’s mother. The asymptomatic lesions had been present for approximately 2 to 3 years and were not enlarging nor evolving. Furthermore, the small bumps were nonpruritic and nonpainful and did not bleed, crust, or rupture. The lesions did not bother the girl, and her mother simply wondered whether they were “whiteheads.” There was no history of trauma to the nose, and no nasal crease was identified in this child.

Besides eczema and skin sensitivities to numerous soaps and bath products, the child was otherwise healthy. The patient had no known drug or environmental allergies. The child did not have asthma and denied any history of allergic rhinitis or allergic conjunctivitis. The patient’s sister did not have similar lesions on her nose. There was a family history of eczema, psoriasis, and hay fever.

On examination, a number of small (1-2 mm) white papules were seen in a linear configuration across the lower third of the nasal dorsum (Figure 1). There was no surrounding erythema, no central pore, and no epidermal changes noted. A transverse nasal crease was not identified in this child. The lesions were not tender and were consistent with the clinical appearance of milia. No treatment was given because the mother did not want any active treatment for the milia.
PATIENT 2

A 5-year-old boy with a hypopigmented, horizontal line featuring milia-like papules (Figure 2) within it was referred to the Pediatric Dermatology Clinic at the Alberta Children’s Hospital. The line had been present for approximately 2 years, becoming more prominent in the summer months. A few white papules had also developed in the crease but never became inflamed or irritated. The patient’s father reported having a similar problem, although the child’s older brother did not have a similar condition. The patient was using no medications and was otherwise healthy. The child did not have any known food or environmental allergies.

On examination, a hypopigmented, transverse nasal crease was noted along the lower third of the patient’s nasal dorsum (Figure 2). There was no surrounding erythema and no scale. A few small, superimposed white papules were also noted within this crease, consistent with the appearance of milia. Aside from 2 verrucae on the right shin seen as an incidental finding, the findings from the rest of the dermatologic examination were unremarkable.

COMMENT

Located at the border of the middle and lower third of the nose, a transverse nasal crease can present with a wide clinical spectrum ranging from a faint erythematous line to a hypopigmented groove with a depth and width of several millimeters.¹

Cornbleet² first described the transverse nasal crease in 1951. He reported it as a peculiar transverse angulation crossing over the junction of the middle and lower thirds of the nose, a finding he reported in 5 girls. Cornbleet² hypothesized that the origin of the “transverse nasal stripe,” or “stria nasi transversa,” arose from a defect in the normal development of the nasal cartilages from childhood to adolescence.

Anderson³ described 14 nonatopic patients with nasal grooves within 2 pedigrees, suggesting a genetic predisposition in the absence of allergy. He believed that these cases were inherited through a single dominant gene. An embryologic origin has been proposed by Shelley et al,⁴ who believed that the transverse nasal crease most likely occurs at the site of fusion of the frontonasal prominence and medial nasal prominence, representing an embryologic fault line.

The transverse nasal crease must be distinguished from the “allergic nasal crease,” a similar appearing line, seen in atopic patients as a result of persistent and repetitive manipulation of the nasal tip upwards (the allergic salute).⁵ Adding to this confusion is a report by Ramot et al⁶ describing cornified papules with seborrheic keratosislike hyperplasia and horn cysts occurring in an allergic crease in a patient with allergic rhinitis and constant allergic salute sign. This appears to be the only report of papules occurring in an allergic nasal crease.

The occurrence of milia within a transverse nasal crease has been documented in a few cases reports thus far. Akinduro and Burge⁷ described a child with atopic eczema and asthma with a nasal crease containing milia since birth. Jansen et al⁸ described similar clinical findings in a 9-year-old girl. Risma and Lucky⁹ described 7 patients with pseudoacne of the nasal crease. Two of these patients had transverse nasal milia in a transverse nasal crease. Wimmershoff et al¹⁰ described a 10-year-old boy with a congenital transverse nasal crease containing dense milia and comedones.

In summary, there appears to be 4 case reports of transverse nasal crease without milia²-⁴,¹⁰ and 4 reports of transverse nasal crease with milia and/or comedones¹,⁷-⁹ reported in the literature.

Transverse nasal milia in the absence of a transverse nasal crease are less frequently reported. Del-Rio et al¹⁰ described an 11-year-old girl with milia cysts along her nasal groove but no transverse nasal crease. Two sisters of this girl had a conspicuous nasal groove without milia. Of the 7 patients described by Risma and Lucky,⁹ 3 had transverse nasal milia in the absence of a transverse nasal crease. Piqué et al¹¹ described 3 patients with trans-
verse nasal comedones (open and closed). Although described as congenital, the lesions were first noted at ages 5, 7, and 9 years. These comedones developed in the absence of a transverse nasal crease and are likely a variant of our second patient and the patients of Del-Ríó et al10 and Risma and Lucky,8 who had transverse nasal milia without a transverse nasal crease.

It is important for clinicians to be aware of transverse nasal creases, since they may be encountered in a dermatologic practice. Furthermore, transverse nasal creases are often asymptomatic and may be familial, requiring little intervention.4 Transverse nasal creases, milia in transverse nasal creases, transverse nasal milia, and transverse nasal comedones in the absence of a transverse nasal crease are variants of the same entity. They most probably occur because the triangular cartilage and the alar cartilage attach in a linear fashion at the junction of the middle and lower third of the nose. This produces a potential embryonic fault line in which retention cysts presenting as milia and comedones can occur. These clinical presentations merit attention because they are likely much more common than reported. In addition, the literature on these related entities has been reviewed.

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Correction

Error in Signature Block. In the Editorial titled “The JAMA Network Journals: New Names for the Archives Journals” (2012;148[7]:788), published in July 2012, an error occurred in the signature block. The middle initial for Rita Redberg was incorrectly listed as “A.” Dr Redberg’s full name should read “Rita F. Redberg, MD, MSc.”