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Asymptomatic Bumps Left Posterior Tongue

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The following Case Challenge is provided in conjunction with the UT Health San Antonio School of Dentistry faculty.

A 13-year-old female presents with asymptomatic bumps on the left posterior aspect of her tongue.

After you have finished reviewing the available diagnostic information, make the diagnosis.

Diagnostic Information

History of Present Illness

Kim is 13-year-old female who was referred to your clinic by the juvenile court for evaluation of "bumps" on her tongue. She is accompanied by her foster-mother who is concerned she may have a sexually transmitted disease. Kim became a ward of the state after her parents were killed 5 years ago (murder-suicide). The bumps were discovered by a local dentist who immediately reported her findings to Child Protective Services. She appears to be in no acute distress and denies any sexual activity or abusive encounters.

Medical History

- Adverse drug effects: none
- Medications: escitalopram 20 mg qd
- Pertinent medical history: depression x 5 years
- Pertinent family history: paternal depression, death by suicide age 34, maternal
 DM type 2, death by murder age 31; no siblings
- Social history: admits to smoking 5-10 cigarettes / day x 3 years, denies alcohol and recreational drug exposure



Figure 1. Slight enlargement of the posterior left lateral aspect of the tongue.

Clinical Findings

Extraoral examination reveals normal TMJ function, no facial muscle tenderness, and no cervical lymphadenopathy. Intraoral examination reveals an intact dentition with mild fluorosis. There is no evidence of active caries or periodontal disease. The posterior left side of the tongue is slightly enlarged and pebbly and exhibits multiple translucent intact vesicles (Figures 1 & 2). There is no pain on palpation, induration, or limitations of tongue function. An incisional biopsy was performed and the specimen was submitted for histologic assessment.



Figure 2. Closer view demonstrating translucent vesicles creating a pebbly surface.

Histopathologic Findings

Histologic sections show a papillary mucosal soft tissue fragment exhibiting numerous superficial subepithelial cavernous to deeper small irregular dilated lymphatic vascular channels lined by bland flattened endothelial cells. The vascular lumens contain pink proteinaceous material. There is a supporting fibrous connective tissue stroma with mild chronic inflammation. The thinned stratified squamous surface epithelium displays focal parakeratosis.



Figure 3. Low power histologic section showing a papillary mucosal soft tissue fragment exhibiting numerous superficial bleb-like subepithelial cavernous lymphatic vascular channels. The specimen is surfaced by thin stratified squamous surface epithelium with focal parakeratosis.



Figure 4. High power histologic section showing irregular dilated lymphatic vascular channels lined by bland flattened endothelial cells. The vascular lumens contain pink proteinaceous material. There is a supporting fibrous connective tissue stroma with mild chronic inflammation.

Select Diagnosis

Can you make the diagnosis

A 13-year-old female presents with asymptomatic bumps on the left posterior aspect of her tongue.



Select the Correct Diagnosis

- A. Hemangioma
- B. Focal epithelial hyperplasia C. Condyloma acuminata
- D. Lymphangioma

Hemangioma

Choice A. Sorry, this is not the correct diagnosis.

A hemangioma is a tumor-like proliferation of vascular origin that may present as small innocent birthmarks to large disfiguring tumors.^{1,2} Most hemangiomas are noted within the first 8 weeks of birth and there is a 3:1 female predilection. Sixty percent occur in the head and neck area. Oral involvement primarily occurs on the tongue, lips, and palate.³ Hemangiomas may be further characterized based upon the type of vessel involved: capillary, venous, or arteriovenous. Some undergo significant regression with age, while others may persist. The clinical presentation of a hemangioma is highly variable, ranging from a small red to blue macule or plaque to large blue-purple tumorous masses.³ Characteristic histologic findings consist of prominent vascular spaces and channels. Most hemangiomas require no therapy and the prognosis is excellent. For lesions that interfere with function, pose a significant bleeding risk, or present a significant cosmetic concern, interventions to remove or ablate the lesion may be undertaken.² The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Focal epithelial hyperplasia

Choice B. Sorry, this is not the correct diagnosis.

Focal epithelial hyperplasia (FEH), also known as Heck disease, is an uncommon benign virusrelated condition. The disease is induced by human papillomavirus (HPV) subtypes 13 and 32.²⁴ FEH is predominantly found in children and adolescents of indigenous heritage and has a variable female predilection.⁴ FEH typically presents as multiple, soft, normal-colored, small (<10mm), sessile papules and nodules present on the labial mucosa, buccal mucosa, commissure, and tongue. The histologic findings consist of parakeratosis, acanthosis, rete pegs with a club-shaped appearance, koilocytosis, and mitosoid cells.²⁴ Spontaneous regression has been reported but persistent unaesthetic lesions or lesions that are frequently traumatized may be managed with ablation (e.g. surgery, laser, electrocoagulation).² There appears to be no malignant potential. The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Condyloma acuminata

Choice C. Sorry, this is not the correct diagnosis.

Condyloma acuminatum (venereal wart) is a virus-induced sexually transmitted disease.^{2,5} Most cases are associated with human papillomavirus (HPV) subtypes 6 or 11, however coinfection with oncogenic HPV strains such as HPV 16 and 18 may occur. While most cases occur in the anogenital region, the oropharynx may be involved as a consequence of infection through oral sexual activity.⁵ The observation of a condyloma in a child raises the concerns for sexual abuse. Oral condylomas most frequently present as solitary or clustered sessile, well-defined, pink, nontender, pebbly surfaced papule(s) on the labial mucosa, soft palate, or lingual frenum.² Histologic findings are characterized by acanthotic stratified squamous epithelium with papillary surface projections with thin connective tissue supportive cores. Koilocytosis may be present. Treatment usually consists of surgical excision or cryoablation and the prognosis is good.^{2,5} The histopathologic and clinical findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Lymphangioma

Choice D. Congratulations! You are correct.

Lymphangiomas are uncommon benign hamartomatous proliferations of lymphatic channels that have a marked predilection for the head and neck area but only rarely affect the oral cavity.^{2,6} About one-half of all cases are present at birth and 90% are noted within the first 2 years of life. Lymphangiomas may be further characterized as macrocystic (cyst-like spaces > 2 cm), microcystic (cyst-like spaces < 2 cm), or mixed. The most commonly affected extraoral site is the neck and the most commonly affected intraoral site is the tongue.^{2,7} Lymphangiomas involving the tongue typically present as a localized enlargement manifesting multiple, blister-like, nodules on the surface. The surface appearance has been likened to that of "frogs eggs" or "tapioca pudding.² Histologic features include dilated lymphatic vessels located close to the overlying surface stratified squamous epithelium and scattered lymphocytes in the adjacent connective tissue. Small, asymptomatic lymphangiomas require no treatment. However, larger lesions which interfere with function and/or are symptomatic should be managed with surgical excision or sclerotherapy.^{2,6,7}

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