

An Atlas of Lumps and Bumps: Part 17

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EDITOR'S NOTE:

This article is part of a series describing and differentiating dermatologic lumps and bumps. To access previously published articles in the series, visit <https://www.consultant360.com/resource-center/atlas-lumps-and-bumps>.

Thyroglossal Duct Cyst

Embryologically, the thyroid anlage arises from the primitive pharynx at the site of the future foramen cecum (at the junction of the anterior two-thirds and posterior one-third of the tongue) at around the third week of gestation.^{1,2} As the neck develops, the thyroid gland descends along the midline of the neck, between the first and second branchial arteries, and ventral to the hyoid bone and the developing laryngeal cartilage by the seventh week of gestation.^{1,3} The thyroid gland remains connected to the foramen cecum by the thyroglossal duct during the descent. The thyroglossal duct usually involutes by the tenth week of gestation.¹ Failure of involution of any portion of the thyroglossal duct and secretion from the epithelial lining of the duct results in the formation of a thyroglossal duct cyst.¹

Thyroglossal duct cysts occur in approx-

imately 7% of the general population.^{1,4} The sex ratio is approximately equal.^{5,6} Most cases are sporadic.^{2,7} Familial occurrence is unusual.² Thyroglossal duct cysts are occasionally inherited as an autosomal dominant disorder or, rarely, as an autosomal recessive disorder.²

Typically, a thyroglossal duct cyst presents as a painless midline neck cystic mass (**Figures 1 and 2**) at any site along the normal pathway of descent from the foramen cecum to the inferior neck.^{2,4} In the pediatric age group, most thyroglossal duct cysts are 2 cm to 4 cm in diameter.³ Larger thyroglossal duct cysts are seen mainly in adults.³ The most common site of a thyroglossal duct cyst (61% of cases) is between the thyroid gland and the hyoid bone.⁸ Other potential sites include the suprahyoid (24%), suprasternal (13%), or intralingual (2%) locations.⁸⁻¹⁰ A thyroglossal duct cyst may move upward



Figure 1. Thyroglossal duct cyst presenting as cystic mass at midline neck.



Figure 2. Thyroglossal duct cyst presenting as cystic mass at midline neck.

with deglutition and with protrusion of the tongue.^{2,4,11} Typically, the cyst is mobile from side to side, but the movement may be limited with protrusion of the tongue because of its persistent attachment to the foramen cecum.² Approximately 1% of the cysts are located laterally, often on the left side.⁸ Although thyroglossal duct cysts are congenital, these lesions rarely present in the neonatal period.² More commonly, the cysts are noted in preschool children, sometimes after an upper respiratory tract infection with rapid enlargement of the cysts.^{2,3} Otherwise, most thyroglossal duct cysts tend to grow slowly over time.⁶ Up to 50% of the lesions are not diagnosed until the second decade of life.¹² Some thyroglossal duct cysts do not present until

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adulthood.³

Infection is the most common complication and is seen in approximately 10% of affected patients.^{5,11} Hemorrhage into the cyst may also occur.⁶ A lingual thyroglossal duct cyst may result in dysphagia, speech impairment, and ball-valve obstruction of the larynx.^{8,13} Extrinsic airway compression or intralaryngeal extension may result in hoarseness, obstructive sleep apnea, and dyspnea.^{8,14,15} A thyroglossal duct cyst has the potential for malignant transformation during childhood, but this is uncommon.² Approximately 99% of thyroglossal duct malignancies are papillary adenocarcinomas.^{11,16,17} Squamous cell carcinoma in a thyroid duct cyst is rare but has been reported.¹⁸

External Angular Dermoid

An external angular dermoid is a dermoid cyst located at the lateral eyebrow or the orbital rim adjacent to the frontozygomatic suture. The cyst arises along bony sutures as a result of abnormal ectodermal sequestration during embryonic development.^{19,20} The cyst lining consists of keratinized stratified squamous epithelium.¹⁹ The cavity is filled with mature dermal derivatives such as hair follicles, sweat and sebaceous glands, and fibroadipose tissue, with varying amounts of keratinous material.¹⁹ Dermoid cysts in children are commonly found in the head and neck regions, accounting for up to 84% of total body dermoid cysts.²¹ Dermoid cysts that involve the lateral eyebrows or eyelid account for more than 50% of dermoid cysts in the head and neck regions.^{19,22} Most cases are sporadic, and familial occurrence has rarely been reported.²⁰

Clinically, an external, angular dermoid presents as an asymptomatic, soft to firm, poorly mobile, solitary mass above the lateral eyebrow (**Figures 3 and 4**).¹⁹⁻²² The mass is subcutaneous, and the overlying skin is normal.²³ The mass is usually noticed at birth or in the first year of life.¹⁹ An external angular dermoid is generally benign and slow-growing.^{19,21} However, an external angular dermoid may cause a bony depression from pressure or may



Figure 3. Angular dermoid presenting as an asymptomatic, solitary mass above the lateral eyebrow.



Figure 4. Angular dermoid presenting as an asymptomatic, solitary mass above the lateral eyebrow.

have a dumb-bell extension into the orbit. Rupture of the dermoid cyst into the subcutaneous tissue can result in a severe granulomatous inflammation.

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