

A 50-year-old man with a history of submental mass since childhood presented with increased swelling of the mass and discomfort with swallowing. Ultrasound-guided fine needle aspiration and histological biopsy were non-diagnostic. Computed tomography (CT) of the neck was performed. Non-contrast CT demonstrated soft tissue swelling in the submental region and a unilocular cystic mass with smooth margins in sublingual space (Fig 1). Multiple homogeneous, hypoattenuating fluid material were seen inside. No calcification was noted (Fig 2). Contrast-enhanced CT demonstrated enhancement of the wall of the cystic sublingual mass (Fig 3). Based on the coronal images, the cystic mass appeared to be in the sublingual space superior to the mylohyoid muscle (Fig 4). Collectively, these radiographical features were suggestive of a dermoid or epidermoid cyst.

Excision of the mass was performed. Operative findings confirmed that the mass was deep to the mylohyoid muscle and contained sebaceous material. Pathology demonstrated that the lesion was an epidermoid cyst.

Discussion

Dermoids and epidermoids are ectoderm-lined inclusion cysts. Dermoids have hair, sweat and sebaceous glands and squamous epithelium. By comparison, epidermoids have only squamous epithelium. Both may have cheesy keratinaceous material within the lumen secreted from the squamous epithelium.¹ Dermoid cysts usually manifest during the second and third decades of life. There is no gender predilection. Seven per cent of dermoid inclusion cysts occur in the head or the neck. The most common locations are, first, the lateral eyebrow,² and second, the floor of the mouth. Epidermoid cysts in the head and neck region are rare and are much less common than dermoid cysts. They manifest earlier than dermoid cysts, with most lesions evident during infancy. Dermoid cysts in the neck usually presents as midline, suprahyoid, slow growing masses. Rapid enlargement may be due to a sudden increase in the amount of desquamation, pregnancy, or an associated sinus tract.³ The lesions are typically soft, mobile, and detached from the overlying skin. About 5% of dermoid cysts undergo malignant degeneration into squamous cell carcinoma.

On CT imaging, dermoid cysts appear as moderately thin-walled, unilocular masses, located in the submandibular or sublingual space. Coalescence of fat into small nodules within the fluid matrix¹



FIG 1. Computed tomographic image of the neck (scout images) shows soft tissue swelling in the submental region (white arrows)

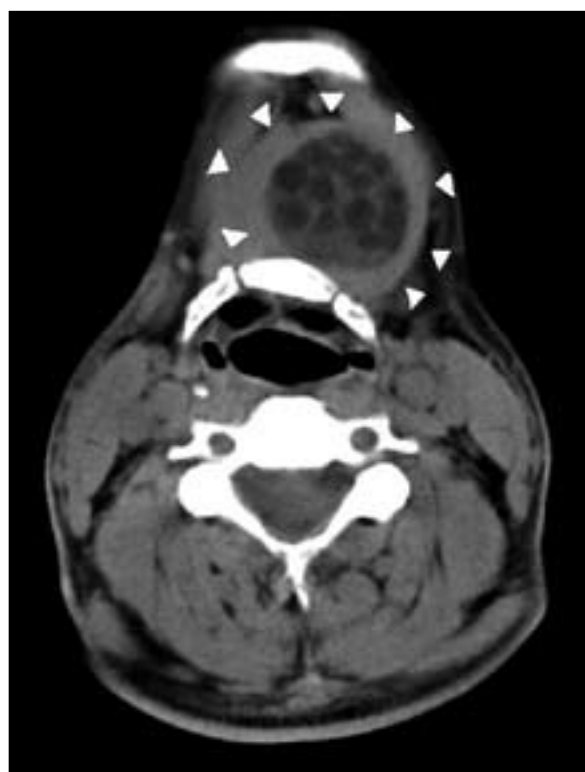


FIG 2. Non-contrast computed tomography shows a well-defined unilocular cystic mass with the 'sack-of-marbles' appearance in the sublingual space (white arrows)

gives the virtually pathognomonic 'sack-of-marbles' appearance. Dermoid cysts may also appear heterogeneous due to various germinal components.



FIG 3. Contrast-enhanced computed tomography shows enhancement of the wall of the cystic sublingual mass (black arrows)



FIG 4. Coronal reconstructions showing the cystic mass was located in the sublingual space superior to the mylohyoid muscle (white arrows)

Epidermoid cysts show fluid attenuation on CT and have the same signal intensity as fluid on magnetic resonance imaging. Epidermoid cysts can also produce the 'sack-of-marbles' appearance. If the lesions are located entirely within the sublingual space, it may be difficult to distinguish epidermoid cysts from other cystic lesions by CT.

Surgical approach is determined by the relationship of the cyst to the musculature of the floor of the mouth. A mass above the mylohyoid muscle can be resected with an intra-oral approach while a mass below the mylohyoid muscle requires an external neck approach, usually through a transverse incision.⁴ This information is crucial for optimal preoperative planning.

References

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Dermoid and epidermoid cysts of neck are uncommon. The 'sack-of-marbles' appearance on imaging is virtually pathognomonic. Imaging studies are useful both in diagnosis and preoperative planning. Clinicians should also be aware of the possibility, though rare, of malignant degeneration of these lesions.

HS Fung, MB, ChB, FRCR
E-mail: dicksonfunghs@gmail.com

HN Wong, MB, ChB

S Lau, FRCR, FHKAM (Radiology)

WK Wong, FRCR, FHKAM (Radiology)

KW Tang, FRCR, FHKAM (Radiology)

Department of Radiology and Imaging
Queen Elizabeth Hospital
30 Gascoigne Road
Kowloon, Hong Kong