

Case Report

Dermoid cyst in the suprasternal notch: a rare case

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ABSTRACT

A mass in the suprasternal notch could have various probabilities, where in a dermoid cyst can be one of them but not one of the most common causes. With various clinical and pathological examinations and also with the help of imaging modalities, we can reach the diagnosis. In this case, the investigations such as ultrasonography, FNAC and CT neck were heavily skewed in the direction of a dermoid cyst. Here, we present a case of a 13-year-old female child who presented with a swelling in the suprasternal notch. She has undergone an excision biopsy after confirming the diagnosis with USG neck, FNAC and CT neck.

Keywords: Suprasternal notch, Swellings in neck, Dermoid cyst, Excision

INTRODUCTION

A dermoid cyst is a developmental cyst which can be formed due to reasons such as congenital/developmental: by sequestration of some ectodermal cells into the deeper layers during embryonic development; implantational: due to implantation of cells into deeper tissues following a sharp injury; from ectodermal tubes: eg: thyroglossal cyst; teratomatous: if they originate from totipotent cells. Dermoid cysts typically contain keratinizing squamous epithelium and respiratory epithelium along with dermal elements, including smooth muscle, hair follicles and fibroadipose tissue.^{1,2}

This cyst is lined by a squamous epithelium containing desquamated cells. The content is usually thick, tooth paste like material which is a mixture of sweat, sebum, desquamated epithelial cells and also hair n teeth sometimes for that matter.

Approximately 7% of dermoids are found in the head and neck.³ They are mostly found in the midline- forehead, root of the nose or in the neck; at the site of fusion of

skull bones; at inner or outer angle of orbit and at anterior triangle of the neck.

CASE REPORT

A 13-year-old female child, has come to the surgical OP of SVS medical college presenting a painless swelling in the anterior aspect of the neck, at the suprasternal region for 2 months, which was gradually increasing in size. There was no tenderness over the swelling and no other swellings were present in other parts of the body.

On examination, there is a soft, cystic, mobile swelling at the suprasternal notch, which was globular in shape and measuring about 2 cm in diameter. The swelling is fluctuant but transillumination is negative. The overlying skin is free and pinchable. The cyst becomes evident on coughing.

The patient denied of any trauma or surgery in that region. She doesn't have any significant medical history and has not attained menarche yet.

An ultrasonography of neck, FNAC, CT-neck was performed on the patient. An ultrasound revealed the evidence of a single, well defined, heterogeneously hypoechoic lesion, approximately measuring 2.1×1.4 cm. having no colour uptake on Doppler at inferior neck midline.

A FNAC revealed low cellularity. Anucleate, squamous as well as keratin material admixed with few scattered mixed inflammatory cells seen.

CT neck showed a single, well defined, hypodense lesion noted just above the suprasternal notch, measuring approximately 21×18×18 mm with mixed density, predominantly fat and cystic components. The CT neck also helped in analyzing the plane and extent of the dermoid cyst.

After confirming the diagnosis through various investigations, an excision and biopsy of the cyst was planned. The cyst was excised in toto and was sent for histopathological examination for further confirmation of diagnosis. The specimen had white, tooth paste like material as its contents (Figure 1).



Figure 1: Dermoid cyst in suprasternal notch.

On histopathological examination, gross findings: grey white to grey brown specimen measuring 2×1.5×1 cm. Cut section- grey white to grey brown area seen. Partly embedded in 2 blocks.

Microscopic: sections studies show cyst lined by squamous epithelium and filled with keratinous debris. Few sebaceous glands also noted. Lymphocytes and plasma cells along with histiocytic giant cells noted.

DISCUSSION

Mostly, dermoid cysts are congenital in nature and present usually during childhood or adolescence. Sometimes, they can also manifest in the older age groups.

The incidence of a dermoid cyst is ~7% throughout the body, suprasternal dermoid cysts are exceedingly rare. In spite of the rarity of suprasternal congenital dermoid cysts, they should be included in the differential diagnosis of suprasternal midline masses in children, along with other teratomas, thyroglossal duct cysts and bronchogenic cysts. The essential difference between a dermoid cyst and an epidermoid cyst lies in the presence of skin appendages (example: sebaceous glands, hair follicles) within the wall of the dermoid cyst and the absence of these features in the epidermoid cyst.⁴

They are usually benign tumours that develop early in life. A dermoid cyst with intracranial extension can cause pretty serious neurological complications such as seizures, encephalitis, meningitis, etc. as the cyst might extend and rupture causing its contents to pass into the subarachnoid space or cerebral ventricle.

The most common clinical appearance of a dermoid cyst in the neck is a midline, suprahyoid, slowly growing mass.⁵

FNAC remains the best modality for confirmation of the diagnosis whereas USG neck and CT scan are useful as an adjunct for diagnosis and for knowing the extent and plane of the swelling. Presurgical imaging of these lesions is important to evaluate of extension to periosteum or adjacent structures that may impact on surgical removal.⁶ The treatment of choice for a dermoid cyst would be excision in toto as only aspiration would cause recurrence.

CONCLUSION

Though a dermoid cyst is rarely found in the suprasternal notch, it should be included as one of the differential diagnoses for swellings in the midline of the neck. Its diagnosis has also become easy with the advent of various investigative procedures.

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