Case Report

Cervical thymic cyst – A rare presentation

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Abstract

Thymic cyst are among the rare cysts found in the neck. Symptomatic swelling in the lateral part of neck includes cervical thymic cyst as a rare possibility. A spectrum of abnormalities of thymus is attributed to the Embryonic cervical decent of the thymic primordium in the pharangeal arches. Sequestrated cystic cervical thymus is found along the normal path of decent with or without parathyroid gland. It is cystic version of accessory cervical thymus and may have a fibrous band or a solid thymic cord connection to the pharynx or mediastinum. Cervical thymic cyst is a rare clinical entity and is a rare radiological finding leading to seldom preoperative diagnosis. We are presenting a rare form of thymic cyst in the cervical region as a post excision recurrent swelling in the left side neck.

Key Word: Cervical thymic cyst, Pharangeal arch.

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CASE PRESENTATION

A twenty years old male presented with the history of swelling the left side of neck since 3 months. Insidious in onset and gradually progressive in size with no history of change in voice or difficulty in swallowing Patient had similar swelling one year back in the same region and underwent excision biopsy which turned out to be left sub-mandibular salivary gland swelling. On examination, an oval soft cystic 3cm X 5cm swelling in the left upper part of one third of neck, anterior to sternomastoid muscle, smooth surface diffuse borders non compressible non translucent and no change with valsalva manoeuvre. A curvilinear 3cm scar 2 cm below and parallel to angle of mandible. Indirect laryngoscopy showed normal findings. Computerized tomography with contrast revealed smooth capsulated hypo-dense lesion in upper part of left side neck but no pharyangeal communication probably bronchial cyst. Excision of the mass lesion done under general anaesthesia and sent for Histopathological examination, Lesion found to be in close relation with carotid artery and internal jugular vein. Cut section of the specimen exudates 2ml grey brown fluid and blood clot, inner surface smooth. Histopathological examination showed unilocular thymic cyst lined by low cuboidal epithelium and wall shows thymic tissue Hassles corpuscles, few lymphatics and adipose cells.

DISCUSSION

Thymus develops from 3rd pharyngeal pouch at 6th week of gestation and rests in superior mediastinum at 12 weeks. Thymic cysts are rare and may be found along the route of thymus descent, which it takes during development along a line from angle of mandible to midline of neck in the anterior mediastinum. Speer while considering cyst formation within thymus tissue posulated many etiologies. These include Embryonal epithelial remnants, degenerating Hassles corpuscles, Infectious and Inflammatory product and Neoplastic, Hyperplastic and Involutional changes of the Epithelium, Lymphoid or connective tissue and vascular elements of the thymus. Two dominant hypothesis seems to have emerged. One relates to the pathogenesis of cystic cervical thymus to acquired progressive cystic degeneration in Hassles corpuscles and epithelial reticulum of the thymus. Second body of opinion is cyst may be a remnant of the original connection between the

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thymus and 3rd pharyngeal pouch from which it originates with cystic changes in persistent unincorporated remnants- Thymo-Pharyngeal duct theory. Second hypothesis is well accepted and most consistent with developmental anatomy of thymus. The cervical thymic lesion include the following categories distinguished by anatomic location and nature of the thymic gland tissue. It includes Accessory cervical thymus, Cervical thymic cyst, Undescended cervical thymus, Persistent Thymiopharyngeal duct cyst, Persistent thymic cord, Cervical extension of mediastinal thymus, Ectopic thymus. Cyst can be unilocular or multilocular, may be lined with squamous, cuboidal, columnar or ciliated. Cyst is an incidental finding rarely exceed 4 cm in diameter, usually spherical or arborizing. Most common age of presentation is 20 to 50 years, as painless swelling and half of them have communication with Mediastinum. In simple cyst thymus tissue can be identified with in the connective tissue lining with columnar (non ciliated) may represent a glandular metaplasia as a resut of infection. It may contain straw coloured fluid with Cholesterol crystals, can be serious or mucinous and often modified haemorrhage. Cholesterol clefts and Granulomas are common with in the cyst wall in connective tissue. Lymphoid tissue often shows evidence of Germinal centers which could only happen if the formed inside a lymphnode. Type of fluid determines where it arises from. Straw coloured fluid could only be derived from blood rather than from mucous gland secretions. Treatment of unilocular cyst is complete excision of the cyst along with surrounding normal Thymic tissue. In complex Multi cystic lesions marked inflammation may be present that obscures the normal thymus structure. Hassles corpuscles are evident and commonly show marked dilatation. They often are continuous with large cystic structures, well formed reactive germinal structures are frequently identified. Neoplastic thymic masses are often associated with cysts that presumably develop because of distortion and compression of adjacent normal thymus. Presence of cystic thymus lesion in a symptomatic patient should provoke a through search for a neoplasm particularly Lymphoma or Thymoma. Multilocular thymic cysts have been associated with Aplastic anaemia, Sjogrens syndrome HIV 1 Infection. Other differential diagnosis includes Bronchial cyst, Thyroglossal cyst, Cystic Hygroma, Benign Lympho epithelial lesion of Parotid gland have been noted where cystic component is well described. Multilocular cysts may develop in Lymphadenopathy, Hodgkin`s lumphoma, Non Hodgkin`s Lymphoma, Seminoma,Thymoma, Thymic carcinoma after Chemotherapy or Radiotherapy. For treatment of Multilocular cysts, underlying primary cause should be searched. If all underlying causes are ruled out then it is treated as like unilocular cyst.

CONCLUSION

Thymic cysts are unusual causes of cystic cervical masses. Increasing number of cervical thymic cysts reported in the last few years probably reflects greater awareness of this condition among Pathologist. They should be included as differential diagnosis of cystic neck masses. Imaging, surgical findings, and histopathological correlation play an important role in diagnosing thymic cysts. It is possible that in the past many cases of cervical thymic cyst had been missed and diagnosed as Bronchial cleft cyst because of inadequate sampling of specimen. So sampling of various portions of specimen is required before a diagnosis of Thymic cyst could be rendered. Thymic cyst is a very rare differential diagnosis of cystic lateral neck swelling. Thymic cyst accounts for less than 0.5% of cystic neck swelling. Mediastinal extension is seen in 50% of cervical thymic cysts. Thymic cyst is thought to develop from persistent thymopharyngeal tracts and the degeneration of Hassall's corpuscles within ectopic thymic remnants.

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