

Cervical Thymic Cyst: A Rare Case Report**Ajay Kr. Singh¹, Salony mittal², Brijesh Mishra³**¹Assistant professor, Dept of Pathology, KGMU, Lucknow, UP, India²Dept. of Pathology, KGMU, Lucknow, UP, India³Deptt. of Plastic Surgery, KGMU, Lucknow, UP, India***Corresponding author**

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Abstract: Cervical thymic cysts are among the rarest cysts found in the neck. Nests of thymic tissue may be found anywhere along the descent of the thymic primordia from the angle of the mandible to the mediastinum. Mediastinal extension is seen in 50% of cervical thymic cysts. The author report an uncommon case of a 27-year-old female, who noted a painless, growing mass on his neck of two -year duration. MRI scan showed a cyst in anterior neck. After surgery histopathological examination reveal i.e. cyst is thymic cyst.**Keywords:** Anterior neck cyst, thymic cyst, cervical mass.

INTRODUCTION

Cervical thymic cyst is rare differential diagnosis of paediatric as well as adult neck swelling. It may be found at any level of the normal pathway of thymic descent, from the angle of mandible to the superior mediastinum [1]. Their prevalence is less than 1% of all cervical masses [2] and are often misdiagnosed as either branchial cleft cyst or cystic hygromas. Its presence is revealed by pathologic examination of an excised specimen of a neck mass. Most of the cervical thymic cyst is asymptomatic or rarely presented with signs of compression [3]. The authors present an unusual case of a cervical thymic cyst in a 27 yrs old Hbs Ag positive female which was clinically misdiagnosed as lymphangioma.

CASE REPORT

A 27 years old female presented with a midline neck swelling for the past 2 yrs which was gradually increasing in size, painless and showing signs of compression such as dyspnoea, dysphagia for 1 month. On physical examination a midline neck swelling was seen measuring 4x2 cm which was soft, non-tender and didn't move on deglutition or tongue protrusion. There was no localised rise of temperature. Other lab investigation was within normal limit. On MRI scan a well defined cystic lesion was seen in the lower part of neck in midline more on right side measuring 5.2x4.0x2.9cm which was extending below the level of

thyroid gland up to thoracic inlet and abutting left brachiocephalic vein. The lesion was compressing and displacing adjacent part of trachea towards left side and right common carotid artery and internal jugular vein toward laterally. Marginal osteophytes were noted in the cervical vertebrae with loss of normal cervical lordotic curve and diagnosis suggest as lymphangioma. The neck swelling was excised completely and intra-operative findings showed midline swelling seen between the strap muscles of neck extending towards the posterior surface of manubrium sterni. On aspiration of swelling a clear fluid was seen. The excised swelling was sent to us as a single grey brown coloured soft tissue piece measuring 3x2x1cm. Its outer surface was covered with fibro fatty tissue. On cutting a cystic cavity was seen measuring 2.5 cm in maximum dimension. And a thickened area was identified in the cystic wall. Representative sections were taken. On microscopic examination a cystic cavity was seen along with few thyroid follicles. The cyst wall composed of fibro collagenous tissue, parathyroid tissue, adipocytes with few interspersed blood vessels and prominent thymic tissue. The thymic tissue composed of lymphoid cells, epithelial cells and Hassall's corpuscle. The parathyroid tissue composed of chief cells, oxyphilic cells and few interspersed capillaries. Adjacent area showed normal lymph node architecture. Diagnosis of cervical thymic cyst with parathyroid tissue was made.



Fig 1: MRI scan- show a well defined cystic lesion was seen in the lower part of neck in midline more on right side.

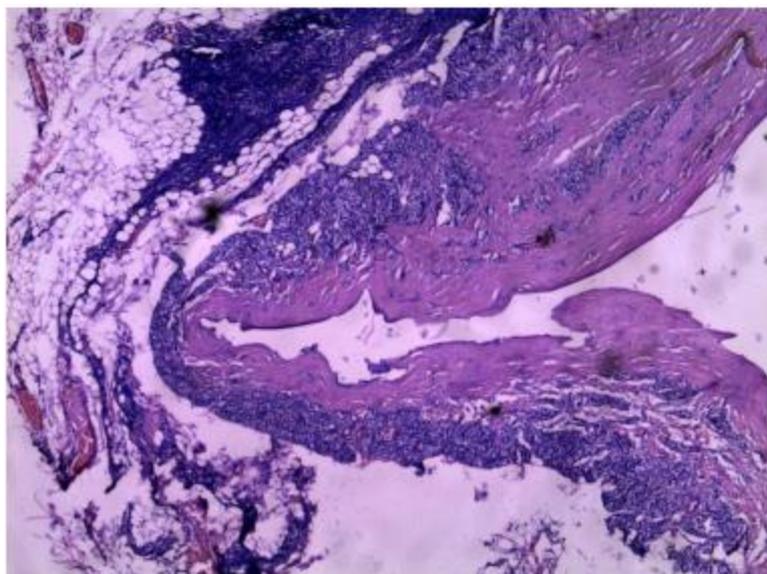


Fig 2: H&E (10x) section show cystic cavity composed of fibro collagenous tissue, parathyroid tissue, adipocyte and thymic tissue.

DISCUSSION

Cervical ectopic thymus is an uncommon neck lump and usually described as sporadic case reports, slightly more than 150 cases of congenital ectopic thymus have been reported in world literature [12, 13]. In the anterior mediastinum, tumours/cysts of thymic origin, germ cell tumours, parathyroid adenoma, lymphoma, and intra thoracic goiters are prevalent [11].

The thymus develops from the third pharyngeal pouch together with inferior parathyroid glands at the fifth week of gestation. The developing thymus maintains its close relation with the parietal pericardium and descends with the pericardium during 7-8 weeks of gestation to assume its characteristic location in the superior anterior mediastinum, anterior to the great vessels [11]. It forms the bilobed thymus gland by third month. It has a physiological role in development of immune mechanism in infants and children [2].

Thymic cysts may be congenital or acquired. Congenital thymic cysts are remnants of the thyro pharyngeal ducts and therefore can occur in the neck or mediastinum [14, 15]. They are usually <6cm, uniloculated or multiloculated and have thin walls; however, acquired cysts are multiloculated with variable cyst wall thickness and size ranging from 3 to 17 cm. The primary event in ectopic thymic cysts is an arrest of migration of thymic tissue or sequestration and persistence of thymic vestiges along the line of descent of the thymo pharyngeal tract, followed by degeneration of Hassall's corpuscles and/or epithelial component of the aberrant thymic tissue [2]. In cases of thymic cysts with thymomas, the thymoma arises from the wall of the cyst.

Cervical thymic cysts show slight male preponderance, majority being asymptomatic. Radiologically thymic cysts manifest as well-circumscribed, uniloculated or multiloculated masses with septa and linear wall calcification [11]. Cystic fluid may be clear, serous or brown thicker haemorrhagic fluid. It predominantly affects left side of neck and has mediastinal extension in 50%. They are closely related to SCM and carotid sheath contents. The common symptoms mentioned for thymic cysts are chest pain, dyspnoea, cough, and hoarseness of voice. Hoarseness of voice and respiratory distress are rare presentation. Myasthenia gravis may be the presenting symptom in few cases. Malignant transformation has been reported in adults but not in children.

The usual etiologies of benign lateral neck masses in children are cystic hygromas, branchial cleft cyst, lymphangioma, lymph node, haemangiomas, cervical teratomas, thyroid and parathyroid cysts. Age, gender, size of the mass, location, and features of its manifestations help in the differential diagnosis.

A cervical thymic cyst shares a similar anatomical location and lymphoid tissue with branchial cysts but appear earlier. The lymphoid tissue in the wall of a thymic cyst is predominantly of thymic origin and usually includes Hassall's corpuscles whereas lymphoid tissue associated with branchial cysts often exhibits germinal centers. The cystic spaces may be lined by cuboidal, columnar, or stratified squamous epithelium [12]. The epithelium may be focally replaced by fibrous multilocular cystic mass with septations of variable thickness below 2years. It is usually centered in posterior triangle or sub mandibular space and spreads along vital structures. Complete excision with single cervical incision is the ideal treatment of choice for ectopic thymus after confirming the presence of normal thymus [7].

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