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Case Report

Surgery Section

Unusual Presentation of Cystic Hygroma in an Adult Patient: A Case Report

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ABSTRACT

Cystic hygroma is a benign congenital malformation of the lymphatic system that occurs in children less than two years of age. Most of the recognised cases are seen in childhood (80 to 90%) and its presentation in adults is very rare, however, it should be considered in the differential diagnosis of adult neck swellings. Clinical and radiological findings aid in establishing its diagnosis, but definitive diagnosis is usually based on postoperative histology. Treatment options include surgical excision, medications or injections for symptom management and rehabilitation postsurgery. The authors hereby report a case of a 21-year-old female presenting with a painless, progressively enlarging left-sided neck swelling of one-year duration. Radiological evaluation suggested a lymphatic malformation. Complete surgical excision was performed and histopathology confirmed cystic hygroma. The postoperative period was uneventful with no recurrence on follow-up. Adult cervical cystic hygroma is rare requiring clinical, pathological and radiological correlation for diagnosis and management. Complete surgical excision remains the definitive treatment for this entity with favourable outcomes.

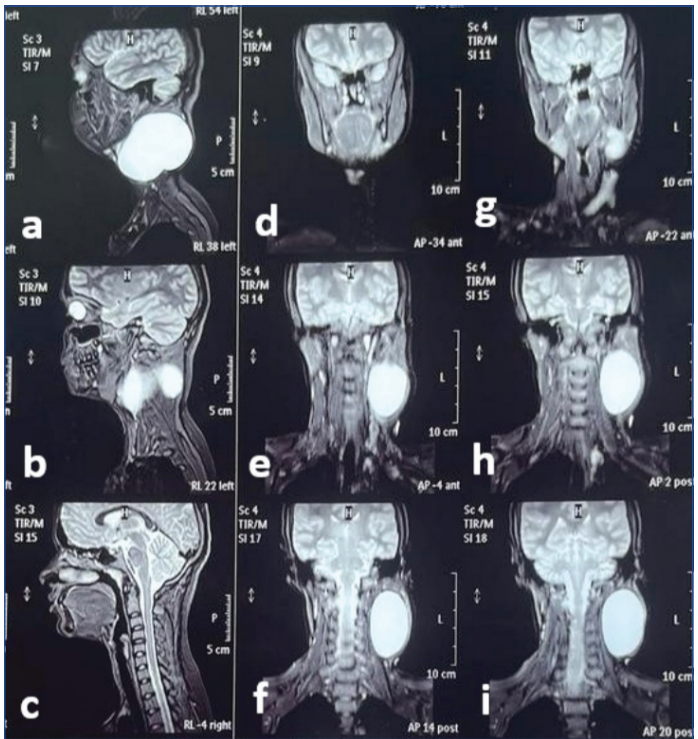
Keywords: Congenital malformation, Lymphangioma, Lymphatic malformation, Neck swelling

CASE REPORT

A 21-year-old female presented to the surgery outpatient department in a tertiary care Institute with a one-year history of progressive left-sided neck swelling. The swelling had been present since childhood but had progressively increased in size over the past one year, causing mild discomfort and dysphagia. No pain, fever, or trauma was reported. On examination, a well-defined, soft, non tender, non pulsatile, brilliantly transilluminant swelling measuring approximately 8×7 cm was noted in the cervical region on the left-side of neck, extending into both anterior and posterior triangles of the neck with normal overlying skin [Table/Fig-1].

[Table/Fig-1]: Initial presentation of the patient with non tender neck swelling in left side of neck.

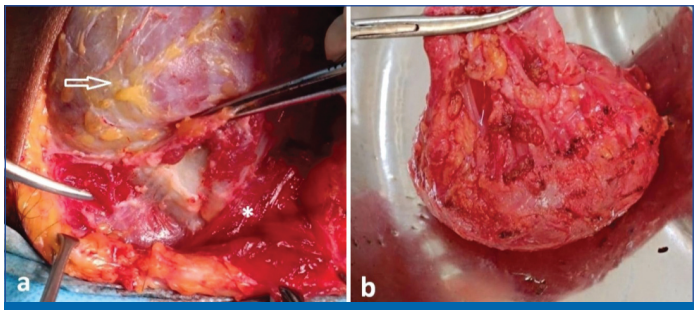
Ultrasound showed an anechoic cystic lesion on the left side of the neck involving both anterior and posterior triangles without significant internal vascularity on colour doppler. Subsequent Magnetic Resonance Imaging (MRI) showed a well-defined unilocular T2/Short Tau Inversion Recovery (STIR) hyperintense lesion measuring approximately 8.9×4.6×7.7 cm (anteroposterior×transverse×superoinferior) extending from the left submandibular region to the left lateral neck and also involving the left parapharyngeal and paravertebral spaces. It was seen displacing the left sternocleidomastoid muscle and reaching upto the skin in the posterior aspect of the neck [Table/Fig-2a-i]. No significant cervical lymphadenopathy was seen. A preoperative diagnosis of lymphatic malformation suspicious for cystic hygroma was made. The differential diagnoses included branchial cleft cyst, dermoid cyst, haemangioma and cystic metastatic lymphadenopathy.



[Table/Fig-2]: T2/STIR MRI images shows a unilocular hyperintense mass measuring 8.9×4.6×7.7 cm in the left lateral neck and involving the left parapharyngeal and paravertebral spaces. It is seen displacing the left sternocleidomastoid muscle in its lateral aspect. Images a, b and c are sagittal views and d to i are coronal views.

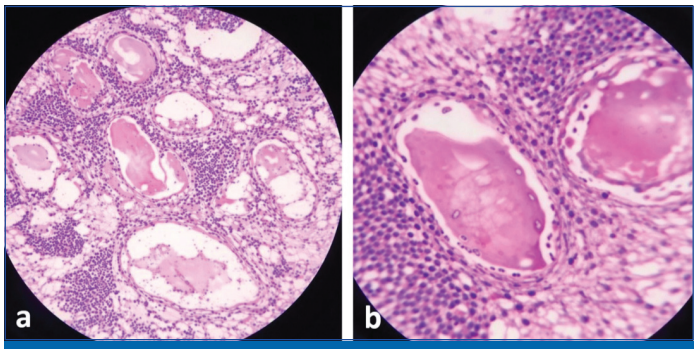
The patient underwent transcervical surgical excision under general anaesthesia. An 8 cm incision was made with complete

cyst removal preserving lingual, hypoglossal, marginal mandibular nerves, submandibular duct and gland [Table/Fig-3a,b]. Considering the size, deep extension and proximity to vital structures, surgical excision was preferred over other modalities such as sclerotherapy, laser and electrocautery to ensure complete removal and reduce recurrence risk.



[Table/Fig-3]: Intraoperative picture showing the cystic lesion (arrow) and sterno-cleidomastoid muscle (*) in the left-side of neck (a) and surgically excised specimen (b), measuring approximately 5×4 cm.

The gross specimen received for histopathological examination was a cystic structure measuring around 5×4 cm. On cut-section a uniloculated cyst was identified with no solid areas. Microscopy showed cyst wall with thinned-walled dilated lymphatic vessels lined by flattened endothelium and surrounded by lymphoid cells [Table/Fig-4a,b]. The histomorphological features were consistent with cystic hygroma (cavernous lymphangioma). Postoperatively the patient recovered well without any postsurgical complications and was advised regular follow-up [Table/Fig-5]. The patient was followed-up for one year postoperatively with no evidence of recurrence or complications.



[Table/Fig-4]: Histopathological examination using haematoxylin and eosin stain at 10X (a) and 40X (b) magnification showed dilated lymphatic channels lined by flattened endothelium with lymphoid aggregates, confirming cystic hygroma.

[Table/Fig-5]: Follow-up image at 2 weeks shows healed scar on the left side of neck.

DISCUSSION

Cystic hygroma is a benign congenital malformation of the lymphatic system most commonly seen in the head and neck region. It typically occurs in children under the age of two years but can also rarely occur in adulthood. In children, it arises from defective formation of neck lymphatics while in adults potential triggers for its formation include lymphatic capillary growth in response to head and neck infections or trauma [1]. It most commonly presents as an asymptomatic neck mass but in some cases can also lead to cosmetic disproportion, infection, feeding and airway problems [2]. Cystic hygroma can be classified as either septated (multiloculated) or non septated single cavity (monoloculated) types [2]. In the present case, it was a monoloculated type of cystic hygroma.

In the adult population, resection is important to avoid the misdiagnosis of a cystic metastasis or a well-differentiated papillary thyroid cancer [3]. Ultrasound is used as the first-line imaging, particularly to differentiate between a cystic mass and solid tumours. Computed Tomography (CT) is used to delineate relevant anatomic structures but MRI provides greater soft tissue and anatomic differentiation and is preferred if available [4,5].

The imaging differentials for cystic hygroma include other cystic neck swellings such as branchial cleft cyst, dermoid cyst, haemangioma, thyroid mass and other congenital tumours. On cytological examination the characteristic feature of cystic hygroma is the presence of clear fluid with histiocytes, lymphocytes and proteinaceous debris [6]. In the present case, imaging revealed a well-defined unilocular cystic lesion involving both anterior and posterior triangles of neck on left-side and histopathological examination showing thinned-walled dilated lymphatic vessels lined by flattened endothelium and surrounded by lymphoid cells, confirming the diagnosis of cystic hygroma.

The treatment of choice for cystic hygroma is surgical excision without which there is a danger of infection and fistula formation [7]. There may be infiltration into adjacent structures which can lead to recurrence in 10-15% of cases, if complete excision is not done [8]. Other treatment options for cystic hygroma include sclerotherapy, laser, cryotherapy, embolisation, electrocautery, steroid administration and radiation therapy [6]. The postoperative complications which can occur after surgical excision of cystic hygroma are haemorrhage, wound infection, hypertrophied scar and lymphatic discharge from the wound [9]. In the present case, the patient did not develop any of these complications and there was no recurrence on one year follow-up.

Alebie HK et al., reported a similar case of cystic hygroma involving the left lateral neck in a 25-year-old woman, which was successfully treated with surgical excision [1]. Askarpour S et al., described a 20-year-old man with a right-sided cervical cystic hygroma who underwent radical cyst resection without recurrence [2]. Similarly, Saxena P and Chandra D reported an adult case in a 35-year-old woman managed by complete surgical excision [7]. These reports reinforce that complete surgical excision remains an effective and definitive treatment for adult cystic hygroma, with a low-risk of recurrence when adequately performed.

CONCLUSION(S)

Cystic hygroma in adults is rare and poses diagnostic challenges. Complete surgical excision remains the treatment of choice with excellent outcomes when supported by imaging and histology. The present case emphasises the importance of clinical, pathological and radiological correlation for the management of these rare lesions.

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