Rare Case of Cervical Hygroma Mimicking as Cervical Meningocele

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ABSTRACT

*Cystic hygroma is usually a benign lymphatic malformation that appears mostly before two years of age. It is frequently encountered in head and neck region but it can be present at any site in the body. In neck cystic hygroma is usually present in the posterior triangle of neck. We report a case of 6-months old boy who presented with cystic hygroma in the midline neck posteriorly. Patient was referred to our neurosurgery department with an expected diagnosis of **cervical meningocele** as site of swelling is common for the cervical meningocele. Clinical examination and radiology made the diagnosis of **hygroma**. Patient was treated with complete surgical resection satisfactorily. Histopathology confirmed the diagnosis of **hygroma**.*

Key Words: *Cystic hygroma, lymphangioma, cervical meningocele.*

INTRODUCTION

The first detailed description of a **lymphangioma** is attributed to Redenbacker in 1828.[1] Wernher first used the term **cystic hygroma** in 1843.[2] Cystic hygroma is more frequently encountered type of **lymphangioma**. Lymphangioma is commonly classified into:

1. **Capillary** lymphangioma or lymphangioma simplex,
2. **Cavernous** lymphangioma, cystic lymphangioma or cystic hygroma.[3]
3. **Cystic hygroma** are congenital malformation that occurs due to **failure of** communication between proliferation lymphatic system with the draining venous system.

Cystic hygroma presents mostly in the **head and neck** area in up to **80%** of cases. It may also present in axilla, chest, back, abdomen, hip and in inguinal area: its head and neck, it presents mostly in the **posterior triangle** of the neck. Cystic hygroma can involve the other sites in head and neck including the larynx, orbit, lip, tongue, parotid, face, cheek, floor of the mouth, base of the tongue or any combination of these.[4]

We are reporting the case of cystic hygroma seen in the posterior midline neck region that apparently mimics cervical meningocele.

Cystic hygroma or cystic lymphangioma is considered benign pathology but it may get infected or gets hemorrhagic or may discharge lymph.[5]

Treatment

Different treatment modalities are present like needle aspiration with **sclerosant injection** but the recurrence rate is high so **surgical excision** is the recommended standard treatment of cystic hygroma.[6-8]

CASE REPORT

A 6 – months old boy referred to our neurosurgery department with chief complaint of **swelling in lower midline of neck posteriorly** since birth. No other co-morbidities were present in patient. Patient has no significant past medical history, he was delivered vaginally at term, with birth weight of three kilograms, his vaccination status was completed to date and milestones were achieved normally. According to the parents, at birth the swelling was in the neck posterior side and size was about **2x2 cm** approximately, it was spherical

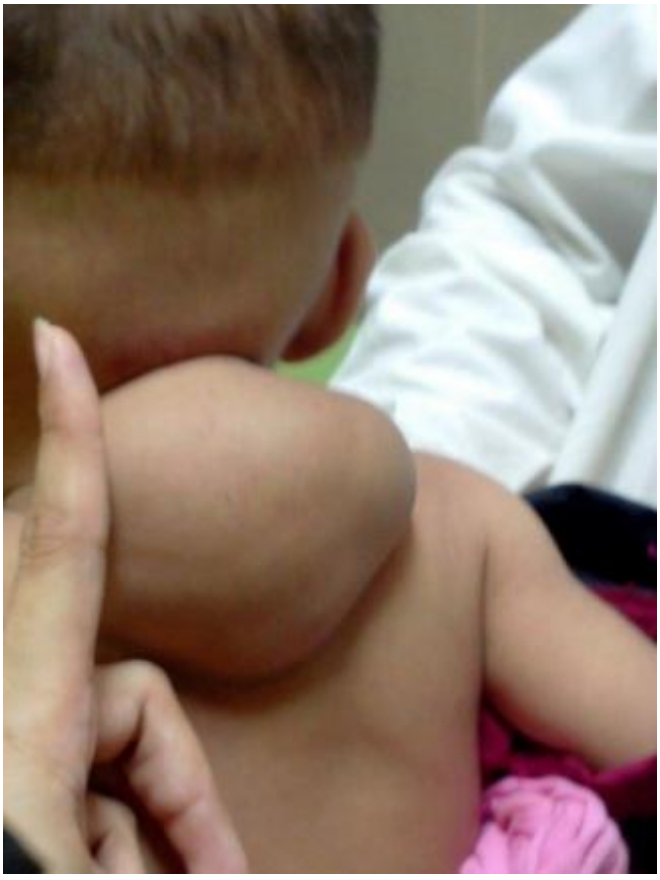

Fig. 1: *Swelling Near Postoperative Midline Posterior.*

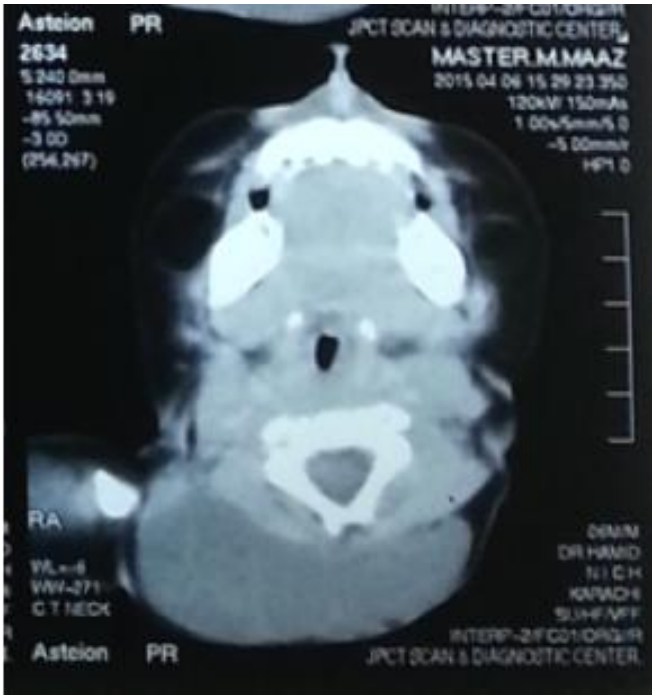

Fig. 2: *CT Scan shows Cystic Hygiene.*

in shape with normal color of overlying skin and they never noted any discharge coming out from the swelling. There is no family history for similar swelling and socioeconomically patient belongs to **poor** economical status.

At the time of presentation in OPD the baby vitals including heart rate, blood pressure, and respiratory rate were within normal range and baby was awake, active and comfortable (Figure 1).

On examination the swelling was present in the midline neck posteriorly more on the right side. It was 6x8 cm approximately in size, irregular in shape, soft in consistency, compressible, non pulsatile, non-tender and mobile in all directions. The overlying skin color was normal and it was transilluminant. No bruit was heard on auscultation. Swelling does not increase in size on straining like coughing or crying. Plain X-ray spine was done that showed no abnormality of spine. Ultrasonography was done that showed a multicystic area at the site of swelling involving back of neck. Doppler ultrasonography did not show any blood flow. CT scan non-ionic contrast showed well defined fluid density in subcutaneous tissue of the neck with thin internal septa (Figure 2).

No significant enhancement. MRI neck was done. Swelling was abutting the adjacent spinal muscles. No extension or communication noted into the spinal cord. (Figure 3).

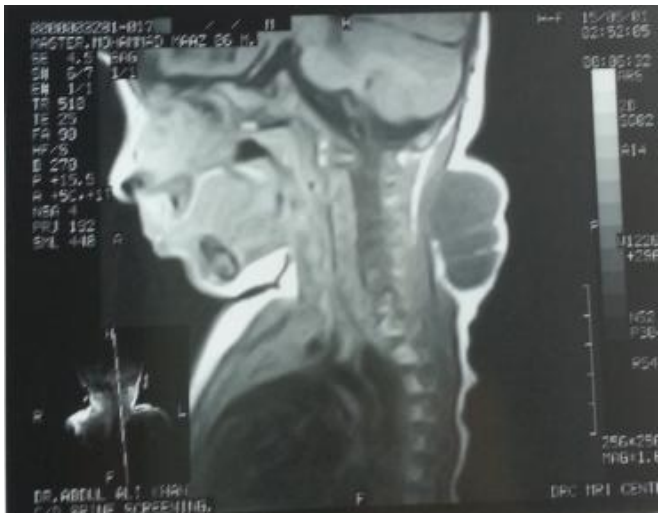

Fig. 3: *MRI showing Cystic Hygiene in the Neck.*

Treatment

1. Diagnosis of cystic hygroma was made and **needle aspiration** was done. 300cc serous fluid was aspi-

rated from the swelling. The fluid D/R report was pH 7.1, specific gravity 1.026, protein 4,000 mg%, glucose 103 mg/dl, LDH 253U/L, RBC numerous/ hpf, WBC 500/cmm, lymphocytes 96%, neutrophils 4%, Gram Staining had no predominant bacteria or yeast cells and Z.N stain had no Acid Fast Bacilli seen. Swelling recurred after aspiration.

2. Patient underwent complete **surgical resection** of the swelling under general anesthesia (Figure 6).

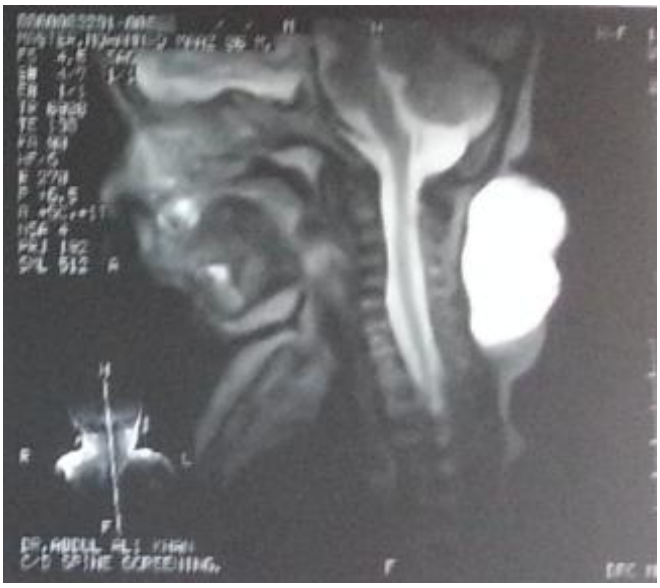

Fig. 4: *T_2 Weighted Sagittal MRI showing Cervical Cystic Hygrome.*

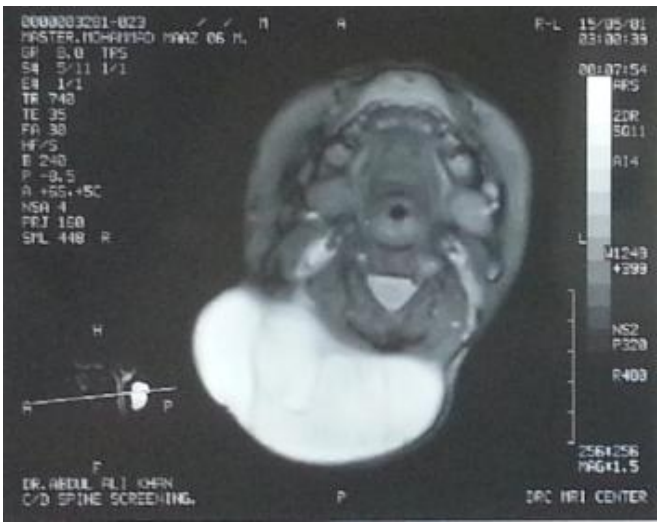

Fig. 5: *T_2 Weighted Axial MRI Brain showing Cystic Hygrome.*

No immediate surgical complications seen. The histopathology of the specimen resected confirmed the clinical diagnosis of cystic hygroma. Patient was discharged on third postoperative day and till now at four month after the surgery he is doing well. Though the swelling is completely resected but he will be kept in follow-up to look for future recurrence.

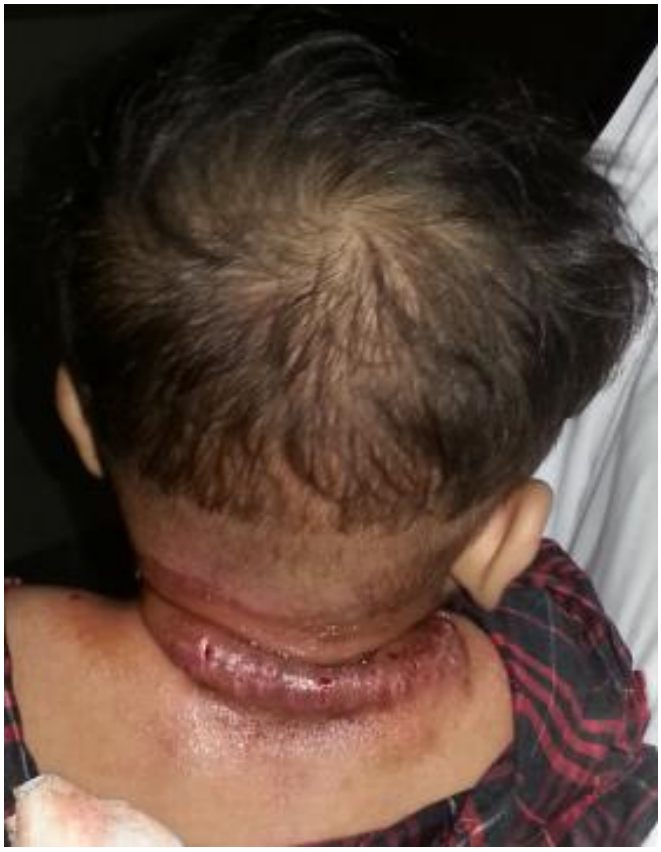

Fig. 6: *Post-operative Scan.*

DISCUSSION

Cystic hygroma is a benign malformation of the **lymphatic system**. It is due to lack of development of **communication** between the lymphatic and **venous** system.[9] Lymphangioma is commonly classified into:

(I) Capillary lymphangioma or lymphangioma simplex,

(II) Cavernous lymphangioma, and cystic lymphangioma or **cystic hygroma**.[3]

Cystic hygroma occurs more frequently than other types of lymphangioma.

It is most frequently seen. Cystic hygroma can be present anywhere in the body but in the head and neck region. It may present at other sites like axilla, chest,

mediastinum, back and inguinal region. It may also arise in liver, spleen, intestine or kidney.[10-12]

Cystic hygroma presents usually for increasing size of the swelling or due to its compressive effects on nearby structures like causing feeding or breathing difficulty when it is found in neck or chest. In our case, the site of the hygroma is rare and it seems like meningocele due to its location in the midline neck posteriorly rather than in the posterior triangle of the neck. So the detailed workup helps in confirming the diagnosis.

As in our case workup includes simple **ultrasonography** that reveals simple cystic lesion with septations. **Color Doppler** was done to check any blood flow. **CT scan** was done to identify the depth of invasion of the hygroma into the deeper structures. **MRI** was done as it demarcated the soft tissue and demonstrated the surgical anatomy in relation to the pathologic aspect of the lesion.

In uncomplicated cases of cystic hygroma when there is no infection or hemorrhage into the cyst, the size of swelling can be reduced by doing the needle aspiration carefully. Also **sclerosant** can be injected into the cyst to reduce recurrence.[13] However **complete surgical excision** is the recommended treatment for hygroma.[6]

In our case the simple needle aspiration was done satisfactorily but size gradually increased again and final plan of **complete surgical excision** under general anesthesia was made. Complete excision is not easy as it infiltrates into the surrounding structures. In our case the swelling was abutting the neck muscles and with extreme care the neck muscles were separated while doing excision. Hemostasis was secured and overlying fascia and skin was closed. Patient recovered well from the surgery and was discharged on third postoperative day. At two months follow-up patient is stable and has no recurrence or complication noted.

CONCLUSION

An alert eye should be kept at the atypical sites of the common lesion with consideration of proper workup to deliver the quality based definitive surgical treatment.

Author's Contribution

1. Dr. Zaheen Shibli (Contributed in writing abstract, collected case report, file pictures etc).
2. Dr. Abdul Ali Khan (Contributed in writing the case report and discussion).
3. Dr. Saeed Mazhar (Contributed in the critical review of case report).

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