CASE REPORT

Lumbar Cystic Hygroma: Lymphovascular Malformation

Arivumalar P

Received on: 18 June 2022; *Accepted on:* 27 July 2022; *Published on:* 27 August 2022

Abstract

Cystic hygroma is a malformation of the lymph that presents in various parts of the body, the regions are neck, axilla, abdominal cavity, mediastinum, and peritoneal region. However, cystic hygroma is a benign lesion. Communication is prevented due to complete or incomplete obstruction of the venous system that causes lymphangioma. Lymphangiomas are often associated with chromosomal abnormalities such as Down's syndrome and Turner syndrome. Lymphangiomas are noted at 2 years of age. Cystic hygroma can be detected *in utero* and the treatment of cystic hygroma consists of the administration of sclerosing agent, antibiotic, and surgical excision should be performed to completely remove the lymphangiomas.

Keywords: Cystic hygroma, Lymphangioma, Lymphovascular malformation.

Pondicherry Journal of Nursing (2022): 10.5005/jp-journals-10084-13141

Introduction

Cystic hygroma is a lymphatic lesion that occurs anatomic subsite in the human body.[1] It refers to lymphatic malformation, which means water tumor (fluid-filled sac). It can occur at any age and may involve all parts of the body, 90% occurs in children less than 2 years of age.[2–4] Cystic hygroma is needed to confirm by physical examination, ultrasound examination and computerized tomography (CT). Possible complications are wound infection, respiratory obstruction, and nerve damage. Surgical excision is the treatment of choice. Antibiotic prophylaxis is needed to treat the chance of recurrence after surgery to reduce the incidence.[5] The common locations are the axilla, mediastinum, and groin. The malformation is present in some organs such as liver, spleen, kidney, and intestine. Cysts are classified based on the size of microcystic, macrocystic, and mixed lymphangiomas.

Cystic hygroma is normally soft, painless, compressible (doughy) mass, and trans illuminates with light. Involvement of swelling may lead to airway obstruction. About 50–65% is evident at birth, by the 10th week of gestation, malformation was visualized by using abdominal ultrasonography. Resection can offer the potential for cure.

Case Report

A 5-month-old boy reported to the Department of Pediatric for history of painless swelling over the left lumbar region at birth, which was slowly increased in size. The histologic diagnosis of the tumor was unknown. On examination, swelling over the left lumbar region was soft on palpation, nontender, and brilliantly translucent when subjected to light test (Fig. 1). A laboratory investigation was carried out and the findings were found within normal limits. The mass contained clear fluid and no tumor cells that were revealed by fine-needle aspiration cytology. Magnetic resonance images show swelling extending from the midclavicular line to the post-axillary line and extending to the left hypochondriac region and iliac fossa with few dilated veins. The cyst had a size of approximately 15 × 15 cm. X-ray findings were no evidence of abnormal flow voids in the lesion (Fig. 2). Based on X-ray and magnetic resonance imaging (MRI) findings,

Department of Child Health Nursing, Kasturba Gandhi Nursing College, Puducherry, India

Corresponding Author: Arivumalar P, Department of Child Health Nursing, Kasturba Gandhi Nursing College, Puducherry, India, Phone: +91 8838156288, e-mail: prabamalar890@gmail.com

How to cite this article: Arivumalar P. Lumbar Cystic Hygroma: Lymphovascular Malformation. Pon J Nurs 2022;15(2):45–47.

Source of support: Nil

Conflict of interest: None

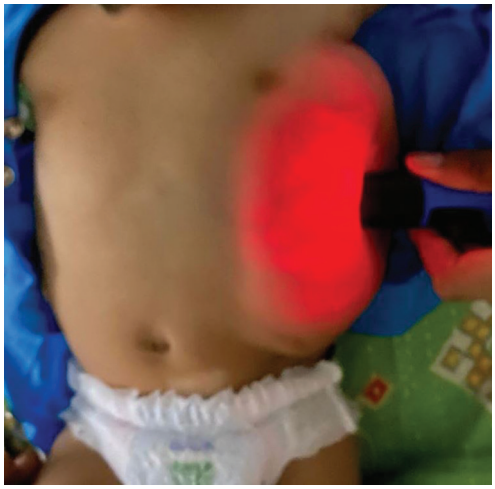

Fig. 1: Image of the child before surgery

a final diagnosis of lumbar cystic hygroma was made for the child. Large hemangioma excision of the mass was performed under general anesthesia. The child was placed in right lateral position, linear vertical incision was made over the swelling, the skin was incised and opened, and multiple located cysts were noted with lymphatic fluid inside and vascular lining over the area. The cyst wall was separated from the skin. The drain was placed (Fig. 3). The intraoperative findings corroborated with the CECT. The cyst weighed 400 gm postoperatively, the child recovered

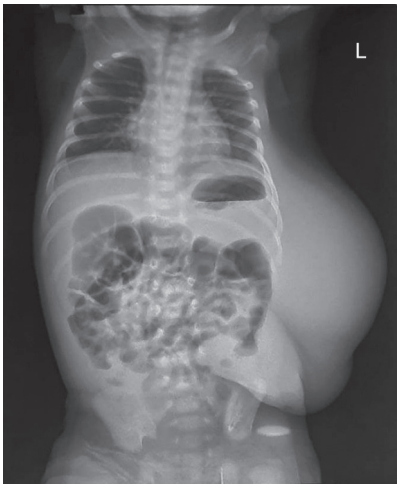

Fig. 2: X-ray view of the child

Fig. 3: Image of the child after surgery with drain

uneventually, with minimal drain output. On the 5th day, the drain was removed and the child was discharged on the 12th day after suture removal, histopathology evaluation of the mass is as follows: 15 × 20 cm consistent with benign cystic lymphangiomas of the mixed-type variety. The child has been able to come for follow-up for symptoms or recurrence.

Discussion

Cystic hygroma is a benign lymphatic malformation also known as lymphangiomas, which means water tumor that affects children, very rarely, it can be present in adulthood. In total, 1 case per 6,000–16,000 live births. About 50–65% is evident at birth, with 80–90% of cystic hygroma estimated by the age of 2 years. During pregnancies, elevated alpha-fetoprotein levels have been assessed by amniocentesis.[6,7] The common locations are axilla, mediastinum, and groin. Usually, it was classified as capillary, cavernous, and cystic. Based on the size are:

- Microcystic: measuring less than 2 cm in size.
- Macrocystic: measuring more than 2 cm in size.
- Mixed: variable size (some cysts are more than 2 cm in size and others are less than 2 cm).[8]

Intrauterine alcohol exposure is the important factor that was associated with the development of lymphangiomas. It was often associated with chromosomal abnormalities such as Down and Turner syndromes.[9] Lymphatic rests can penetrate adjacent structures and secretions to develop cystic components.[10]

History collection and physical examination can be obtained to diagnose the cystic hygroma.[11]

Lymphangiomas are best visualized by magnetic resonance images that show multiple well-defined cystic lesions. Computerized tomography was done by intravenous contrast to better visualize anatomic locations. Ultrasonography was used to diagnose during the first trimester.[12]

Conservative treatments are injection of sclerosing agent (OK-432, bleomycin, corticosteroids, and 50% dextrose), radiotherapy, and enucleation. Surgical excision is the treatment of choice, but complete surgical excision is injecting hydrocolloid impression material into the lesion by a syringe, and simultaneous aspiration of cystic fluid by another syringe tumor does not involve major vessels and nerves.

Nursing Management

- Monitored the general conditions of the child.
- Taught the family members about wound care.
- Assessed the child intake and output.
- Family members were very anxious with the detailed explanation about the child condition, they could also develop family coping.
- Encouraged the child to take adequate fluids orally like direct breastfeeding.
- Discharge advice was given to the child's parents. Suggested to do few investigations by the day of follow-up.

Complication

Complications can arise due to the rapid enlargement of the cystic hygroma, causing infiltration of the lumbar region. This can result in complete or incomplete airway obstruction. Hemorrhage within the lesion leads to infection and later abscess formation.

Conclusion

Observation is advisable for all children. Cystic hygroma was diagnosed based on MRI radiographic images. The lesions were extended from midclavicular line to post-axillary line and left hypochondriac region and iliac fossa. A careful surgical plan was made out to avoid further injury. Experienced surgeons and anesthetics collaborate together to ensure a successful surgical outcome to the child.

References

1. Ibrahim M, Hammoud K, Maheshwari M, Pandya A. Congenital cystic lesions of the head and neck. Neuroimaging Clin N Am 2011;21(3): 621–639. DOI: 10.1016/j.nic.2011.05.006.
2. Glasson MJ, Taylor SF. Cervical, cervicomediastinal and intrathoracic lymphangiomas. Prog Pediatr Surg 1991;27:62–83. DOI: 10.1007/978-3-642-87767-4_5.
3. Esmaeili MRH, Razavi SSB, Harofteh HRA, Tabatbaii SM, Hosseini HA, Sheikhi MA. Cystic hygroma: aesthetic consideration and review. Res Med Sci 2009;14(3):191–195. PMCID: PMC3129060.
4. Yildirim E, Dural K, Kaplan T, Sakinci U. Cystic hygroma: report of two atypical cases. Interact Cardiovasc Thorac Surg 2004;3(1):63–65. DOI: 10.1016/S1569-9293(03)00225-1.

5. Ameh EA, Nmadu PT. Cervical cystic hygroma: pre-, intra- and post-operative morbidity and mortality in Zaria, Nigeria. Pediatr Surg Int 2001;17(5–6):342–343. DOI: 10.1007/s003830000558.
6. Zadvinkis DP, Benson MT, Kerr HH, Mancuso AA, Cacciarelli AA, Madrazo BL, et al. Congenital malformation of the cervicothoracic lymphatic system: embryology and pathogenesis. Radiographics 1992;12(6):1175–1189. DOI: 10.1148/radiographics.12.6.1439020.
7. Pandit SK, Rattan KN, Budhiraja S, Solanki RS. Cystic lymphangiomas with special reference to rare sites. Indian J Pediatr 2000;67:339–341. DOI: 10.1007/BF02820682.
8. Grasso DL, Pelizzo G, Zocconi E, Schleef J. Lymphangiomas of the head and neck in children. Acta Otorhinolaryngol Ital 2008;28(1):17–20. PMCID: PMC2640069.
9. Carr RF, Ochs RH, Ritter DA, Kenney JD, Fridey JL, Ming PM. Fetal cystic hygroma and Turner's syndrome. Am J Dis Child 1986;140(6):580–583. DOI: 10.1001/archpedi.1986.02140200090035.
10. Schefter RP, Olsen KD, Gaffey TA. Cervical lymphangioma in the adult. Otolaryngol Head Neck Surg 1985;93(1):65–69. DOI: 10.1177/019459988509300113.
11. Bernstein HS, Filly RA, Goldberg JD, Golbus MS. Prognosis of fetuses with a cystic hygroma. Prenat Diagn 1991;11(6):349–355. DOI: 10.1002/pd.1970110603.
12. Bronstein M, Rottem S, Yoffe N, Blumenfeld Z. First-trimester and early second-trimester diagnosis of nuchal cystic hygroma by transvaginal sonography: diverse prognosis of the septated from the nonseptated lesion. Am J Obstet Gynecol 1989;161(1):78–82. DOI: 10.1016/0002-9378(89)90237-8.