

A Rare Complication of Thoracic Duct Injury after Lymphangioma Operation and its Successful Management in a Child

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Abstract: *Lymphatic lesions are an usual conditions in children warranting treatment in children due to complications if left untreated. However, complications are also not uncommon after surgery. We hereby this article emphasize that the surgery being performed is important and be meticulous, or injuries are common in vicinity of vital structures whose identification and further management is imperative.*

Keywords: Cystic hygromas, lymphangioma, thoracic duct injury, chylous leak

1. Introduction

Lymphatic malformations are a common conditions in children and are due to abnormality in the efferent drainage systems. These need some form of treatment. The one of the modalities of treatment for micro cystic variant of these lymphangiomas is also surgery. The surgery is important as well as its meticulousness, as complications if once occur are difficult to manage.

2. Case Report

A female infant came with painless swelling in the neck. The swelling increased during crying episodes and was fluctuant and transillumination was positive and clinically was diagnosed as lymphangioma. The child had already undergone investigations of routine blood tests and ultrasonography and computerised tomography which showed micro cystic lymphangioma limited to neck. The child underwent surgery. During surgery, and to our surprise there was extension into mediastinum. While removal of extension into thoracic inlet, there was difficulty but was managed. The child developed massive chylous leak, draining in the negative suction drain kept in the wound on second postoperative day and failed to stop for 48 hrs, then was planned for re exploration. The child was given methylene blue mixed with fat food before surgery on postop day three. During surgery the injury to the thoracic duct was identified by bluish discharge and ligation was done with nonabsorbable sutures. The child did well after the reexplorative surgery. The child is doing well at 6 months of follow up post re - exploration with good weight gain and normal growth.

3. Discussion

Lymphatic malformations were first described by Redenbacker in 1828 and Wernher in 1843, who said these were developmental aberrations or anomalies, leading to cystic swelling and its sequelae. Various modalities of treatment exist, one of them being surgical excision and is not without complications. Injury to the thoracic duct during surgeries of the neck is not uncommon, even in experienced

hands, with reported incidence of 1 - 3% in major neck surgeries, seen commonly on left side i. e, 75%^{2, 3}. Occurs with dissection going deep in the neck or mediastinum. However the failure to recognize this complication during surgery or early postop leads to serious consequences. This was first described by Cheever in 1875. It is associated with high mortality of 12.5% to 50 %.^{3, 4} Presentation is drainage of 'milky white' fluid if taking orally or clear fluid if nil orally, from wound, and is confirmed by high triglycerides (usually more than 1000 mg/dl). The problems with this complication are prolonged hospital stay, fluid, electrolyte imbalance, immunosuppression, oedema, hypoalbuminemia and sepsis^{5, 6}. The indications for surgical intervention are early diagnosis, high output fistula but maximum a week's trial of conservative management involving low fat diet, total parenteral nutrition (TPN), somatostatin, sandostatin & etilefrine can be tried for a period of time.^{5, 6} The surgical treatment in cases of high output leak, iatrogenic surgical injury is surgery and that to at the earliest and involves re - exploration if in the neck, if retracted into thoracic cavity or primarily leak in the thorax then dealt by thoracoscopy and or thoracotomy, identification and clipping or ligation of the injured thoracic duct.^{5, 6}

4. Conclusion

Lymphangiomas are one of the common swellings in the neck in children, with a few ones even extending into thoracic cavity. High degree of suspicion clinically and investigative intuition may find lymphangioma extension into neck and or aberrant thoracic duct. In these cases meticulous surgery prevents the thoracic duct injury at the inlet and if injury is recognized early, should be dealt during the same surgery or in early postoperative period to prevent severe morbid and mortal complications in these children.

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