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Latissimus dorsi muscle flap in treating recurrent eventration of diaphragm

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Background: Diaphragmatic eventration-Permanent elevation of a hemi-diaphragm without defects in continuity. It is a rare anomaly, occurring in about 0.001-0.003% of live births (Urschel et al.) It is associated with recurrent pneumonia, severe respiratory distress, ventilator dependency.

Case report: 11 month old child with recurrent respiratory tract infections requiring hospitalization. History of full term normal vaginal delivery. Respiratory distress at birth, and was found to have left sided eventration of diaphragm. The child underwent laparotomy and plication repair on 8th day of life and was discharged home on 22nd day of life. However, the child developed recurrent episodes of cough and fever from one month post op.

Investigations: X Ray- elevated left dome of diaphragm Barium meal follow through- recurrence with stomach and splenic flexure occupying the eventration.

Operative procedure: Left dorsolateral incision, Left latissimus dorsi identified, dissected and safeguarded, thoracotomy done in 5th ICS, Eventration of left lobe of diaphragm, incision in diaphragm/sac on the anteromedial aspect left dome of diaphragm, Diaphragm repaired by plication and fixation to the anterior chest wall, Diaphragm repair reinforced with left latissimus dorsi flap Incision closed in layers, wound dressed, Discharged on POD 22, with no complications.

Discussion: Neonates with large defects require prosthetic patch closure because of the paucity of native diaphragmatic tissue. As the child grows, patch separation can occur necessitating reoperation. Because of reliable blood supply and the innate strength, LD flap can support the diaphragm well and can prevent its eventration.

Conclusion: Diaphragmatic plication is a standard, well-described technique to treat diaphragmatic eventration. LD flap has been used in treating CDH, while its use in eventration is not well established. However, in our patient we performed a latissimus dorsi muscle flap to treat recurrent eventration of the left hemi diaphragm successfully.