



Hemepath Case 28: Newborn Male

HISTORY

A newborn male with a congenital heart defect undergoes a successful surgical repair. Several hours later, the patient is found to have a post-operative pleural effusion. The effusion is tapped.

The baby's CBC is normal.

DESCRIPTION OF PLEURAL FLUID

The pleural fluid shows a dense infiltrate of mature lymphocytes (see circles) with occasional neutrophils (see rectangles) and macrophages. The lymphocytes are not blasts, and have a mildly convoluted nuclear contour and coarse nuclear chromatin. Clusters of reactive mesothelial cells (see arrows) are also present.

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MORPHOLOGICAL DIAGNOSIS

Chylothorax

DISCUSSION

The thoracic duct drains lymph from the abdomen, lower extremities, and the left upper quadrant of the body (i.e. left side of the head, left arm, left chest) into the left subclavian vein. The right upper quadrant of the body – right side of the head, right arm, right chest – drains lymph into the right subclavian vein via the right lymphatic duct.

Chylothorax refers to the accumulation of chyle in the pleural space, usually as a result of disruption of the thoracic duct. Common causes include trauma, malignancy, and medical procedures (such as cardiac/thoracic surgery or central venous catheterization). Neonatal cardiac surgery is a particularly common cause. A milky white pleural fluid with high triglyceride levels and lymphocytosis is highly suggestive of this condition.