



PEDIATRIC SURGERY UPDATE ©

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Congenital Pre-pyloric Antral Membrane

Congenital gastric outlet obstruction is extremely rare. It occurs either in the pyloric or antral region. Antral membranes (web or diaphragm) are thin, soft and pliable, composed of mucosa/submucosa, and located eccentric 1-3 cm proximal to pyloro-duodenal junction. They probably represent the developmental product of excess local endodermal proliferation and redundancy. The diagnosis should rely on history, contrast roentgenology studies and endoscopic findings. Symptoms are those of recurrent non-bilious vomiting and vary according to the diameter of aperture of the membrane. There is a slight male predominance with fair distribution between age groups in children. Associated conditions: pyloric stenosis, peptic ulcer and cardiac. History of polyhydramnios in the mother. Demonstration of a radioluscent line perpendicular to the long axis of the antrum is diagnostic of a web. Endoscopy corroborates the diagnosis. Management can be either surgical or non-surgical. Surgical Tx is successful in symptomatic pt. and consist of pyloroplasty with incision or excision of the membrane. Other alternative is endoscopic balloon dilatation or transection of the web. Non-obstructive webs found incidentally can be managed medically with small curd formula and antispasmodics. The presence of an abnormally dilated gastric bubble in prenatal sonography should alert the physician toward the diagnosis of congenital antro-pyloric obstruction.

Baker Cysts

Popliteal (synovial) cyst are swelling that originate between medial head of gastrocnemius and the semimembranosus, semitendinosus tendons usually found in children between the ages of 2-7 y/o. Minor trauma is the leading etiology. Diagnosis can be confirmed by sonography: thin wall echo-free cyst. Most will probably disappear spontaneously (73% over a mean of 20 months). Indication for surgery are: limping, pain, size enlargement, cyst does not resolves with time, and questionable nature. Recurrence after surgery is high. Calf swelling and pain secondary to a ruptured baker cyst could be an early manifestation of juvenile rheumatoid arthritis. Compression pressure of knee vein and lymphatics can cause edema of lower extremity in adults.

Midline Neck Masses

Midline neck masses in children can either be: thyroglossal, submental adenopathies or epidermal cysts. By far the most common is thyroglossal duct cyst. Etiology: failure of obliteration of the duct after descent of the thyroid gland during 6th week of gestation. Clinically the cyst arise upon tongue protrusion. They are lined with stratified squamous columnar epithelium. Treatment is excision of cyst along central portion of hyoid bone. Recurrence is caused by failure to remove hyoid portion which can be demonstrated by a simple lateral neck Xray.

Excision of adenopathies (larger than 2 cm), and epidermal cysts is done for diagnostic purposes. Sonography can be of help in discriminating between them.

New ECMO System

The Japanese have designed a new automatic veno-arterial ECMO system using an artificial heart as a blood pump. The artificial heart changes the output automatically in proportion to venous return (computerized), does not generate excessive negative or positive pressure, uses a small priming volume, and can be handle safely by a small number of less-skilled staff workers. This means that more institutions will probably gain access to this mode of treatment since the economical burden will be reduced.

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