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Ectopic Thymus

Finding ectopic thymus in a cervical mass is a rare diagnosis found sporadically in infants and children. Cervical thymic lesions can either be symptomless or cause severe dyspnea and dysphagia, especially in the young infant. Aberrant migration of thymic tissue occurs with ectopic thymus in the superior & posterior mediastinum, bases of the skull, tracheal bifurcation, and cervical region. Aberrant ectopic thymic tissue can present as either a solid or cystic mass in the neck of the child. Cervical location (85%) and cystic nature (70%) is found more commonly. Occasionally, parathyroid glands have been associated with the thymic remnants. Most cases remain asymptomatic. The thymus is a paired organ which develops from the 3rd and 4th pharyngeal pouch and descends into the superior mediastinum between the 6th and 12th weeks of fetal development. Failure of the unilateral gland to descend explains the finding of the ectopic cervical thymic tissue. Another pathogenetic mechanism includes sequestration of accessory cervical foci of thymic tissue along the normal cervical pathway of descend. A normal chest-x-ray without evidence of absent thymic shadows suggests this mechanism of sequestration. The most common cervical location is along the anterior border of the sternocleidomastoid muscle lateral to the thyroid gland and near the carotid sheath. Malignant transformation of ectopic thymus tissue has been documented. Diagnosis is rarely done preoperatively. Management consists of complete surgical excision. Symptoms due to pressure on neighboring structures are promptly eliminated after excision. Prognosis is excellent.

References:

- 1- Tovi F, Mares AJ: The aberrant cervical thymus. Embryology, Pathology, and clinical implications. *Am J Surg* 136(5):631-7, 1978
- 2- Spigland N, Bensoussan AL, Blanchard H, Russo P: Aberrant cervical thymus in children: three case reports and review of the literature. *J Pediatr Surg* 25(11):1196-9, 1990
- 3- Gimm O, Krause U, Wessel H, Finke R, Dralle H: Ectopic intrathyroidal thymus diagnosed as a solid thyroid lesion: case report and review of the literature. *J Pediatr Surg* 32(8):1241-3, 1997
- 4- Krysta MM, Gorecki WJ, Miezyński WH: Thymic tissue manifesting as a posterior mediastinal mass in two children. *J Pediatr Surg* 33(4):632-4, 1998
- 5- Terzakis G, Louverdis D, Vlachou S, Anastasopoulos G, Dokianakis G, Tsikou-Papafragou A: Ectopic thymic cyst in the neck. *J Laryngol Otol* 114(4):318-20, 2000
- 6- Bernig T, Weigel S, Mukodzi S, Beck JF, Wiersbitzky H, von Suchodoletz H, Warzok R: Ectopic cervical thymus in a 12-year-old boy: a case report. *Pediatr Hematol Oncol* 17(8):713-7, 2000
- 7- Saggese D, Ceroni Compadretti G, Cartaroni C: Cervical ectopic thymus: a case report and review of the literature. *Int J Pediatr Otorhinolaryngol* 66(1):77-80, 2002

Mesenteric Adenitis

Mesenteric lymphadenitis is the condition most commonly mimicking acute appendicitis resulting in a high rate of negative appendectomies in children. Mesenteric adenitis is frequently associated with an upper respiratory infection. Clinical presentation includes fever, leukocytosis and low abdominal pain. Mesenteric adenitis can be the result of a viral or bacterial infection. Viruses implicated includes Epstein-Barr, Adenovirus type 3, influenza B and Coxsackie B. Bacteria associated with mesenteric adenitis includes hemolytic streptococci, Yersinia and Salmonella species. The diagnosis of mesenteric adenitis is principally one of exclusion. CT-Scan can help decide whether the child has mesenteric adenitis when the lymph nodes aggregates can be clearly seen. Otherwise, since it can be very difficult to distinguish appendicitis from mesenteric adenitis the diagnosis is establish at surgery. Laparoscopy can also be useful to differentiate appendicitis from mesenteric adenitis. After surgery the postoperative course of children with mesenteric adenitis is usually uneventful and recovery is rapid.

References:

- 1- Alvear DT, Kain TM 3rd: Suppurative mesenteric lymphadenitis, a forgotten clinical entity: report of two cases. *J Pediatr Surg* 10(6):969-70, 1975
- 2- Achong DM, Oates E, Harris B: Mesenteric lymphadenitis depicted by indium 111-labeled white blood cell imaging. *J Pediatr Surg* 28(12):1550-2, 1993
- 3- Macari M, Hines J, Balthazar E, Megibow A: Mesenteric adenitis: CT diagnosis of primary versus secondary causes, incidence, and clinical significance in pediatric and adult patients. *AJR Am J Roentgenol* 178(4):853-8, 2002
- 4- Arda IS, Ergin F, Varan B, Demirhan B, Aslan H, Ozyaylali I: Acute abdomen caused by Salmonella typhimurium infection in children. *J Pediatr Surg* 36(12):1849-52, 2001
- 5- Gilmore OJ, Browett JP, Griffin PH, Ross IK, Brodribb AJ, Cooke TJ, Higgs MJ, Williamson RC: Appendicitis and mimicking conditions. A prospective study. *Lancet* 2(7932):421-4, 1975

Esophageal Elongation

One unresolved surgical problem in pediatrics deals with babies born with esophageal atresia and a long segment between the esophageal stumps enabling primary anastomosis. Long gap esophageal atresia includes stumps at least three vertebral bodies apart (approximately 3 cm in length) or longer. Many techniques have been developed to deal with this problem such as proximal esophageal stump dilatation, waiting for the stump to grow spontaneously with time, use of myotomies, multistage extrathoracic esophageal elongation, elongation of the lesser curvature, replacement of esophagus with stomach, jejunum or colon to mention a few. Consensus between pediatric surgeons worldwide is that there is no better esophageal substitute in a child than the native esophagus. Other authors have found that infants with an exclusive intraabdominal pouch will not reach sufficient elongation and should be considered early as a candidate for esophageal replacement. A recent innovative technique described by Foker using external traction sutures in the esophageal ends have demonstrated to produce sufficient lengthening within 6-10 days for a true primary anastomosis to be accomplished.

References:

- 1- Kimura K, Soper RT: Multistaged extrathoracic esophageal elongation for long gap esophageal atresia. *J Pediatr Surg* 29(4):566-8, 1994
- 2- Fernandez MS, Gutierrez C, Ibanez V, Lluna J, Barrios JE, Vila JJ, Garcia-Sala C: Long-gap esophageal atresia: reconstruction preserving all portions of the esophagus by Scharli's technique. *Pediatr Surg Int* 14(1-2):17-20, 1998
- 3- Maksoud-Filho JG, Goncalves ME, Tannuri U, Maksoud JG: An exclusively intraabdominal distal esophageal segment prevents primary delayed anastomosis in children with pure esophageal atresia. *J Pediatr Surg* 37(11):1521-5, 2002
- 4- Boyle EM Jr, Irwin ED, Foker JE: Primary repair of ultra-long-gap esophageal atresia: results without a lengthening procedure. *Ann Thorac Surg* 57(3):576-9, 1994
- 5- Foker JE, Linden BC, Boyle EM Jr, Marquardt C: Development of a true primary repair for the full spectrum of esophageal atresia. *Ann Surg* 226(4):533-41, 1997
- 6- Gaglione G, Tramontano A, Capobianco A, Mazzei S: Foker's technique in oesophageal atresia with double fistula: a case report. *Eur J Pediatr Surg* 13(1):50-3, 2003
- 7- Al-Qahtani AR, Yazbeck S, Rosen NG, Youssef S, Mayer SK: Lengthening technique for long gap esophageal atresia and early anastomosis. *J Pediatr Surg* 38(5):737-9, 2003

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