PEDIATRIC SURGERY *Update* ©
Vol. 37 No. 04 OCTOBER 2011

Ventriculo-Gallbladder Shunts

When dealing with hydrocephalus in children the preferred method of drainage by neurosurgeons is the use of ventriculo-peritoneal shunting. Ventriculoperitoneal shunting may become dysfunctional due to repeated infections, intraabdominal adhesions, peritonitis, multiple abdominal surgical procedures, cerebrospinal fluid cysts or loculations, and other anatomic causes. When the peritoneum is useless as absorptive medium for CSF fluid, other alternatives previously used include the central venous system (atrium), pleural cavity, gallbladder, stomach, ureter and even fallopian tubes. The ventriculo-cholecystic (gallbladder) shunt is an attractive alternative when the intraperitoneal and intravascular route is not longer available. Ultrasound and nuclear studies of the gallbladder should be performed preop to determine absence of sludge or stones and adequate bile emptying. A fenestrated piece of distal shunt within the gallbladder lumen connected by a metal device to the proximal shunt catheter will provide the placement of the purse string in the gallbladder fundus. The gallbladder remains functional and revisions free. In several series involving the use of ventriculo-gallbladder shunts the long-term patency rate is above 75%. Infection and obstruction are the most common complications.

References:

1- West KW, Turner MK, Vane DW, Boaz J, Kalsbeck J, Grosfeld JL: Ventricular gallbladder shunts: an alternative procedure in hydrocephalus. J Pediatr Surg. 22(7):609-12, 1987
2- Stringel G, Turner M, Crase T: Ventriculo-gallbladder shunts in children. Childs Nerv Syst. 9(6):331-3, 1993
3- Ketoff JA, Klein RL, Maukkassa KF: Ventricular cholecystic shunts in children. J Pediatr Surg. 32(2):181-3, 1997
4- Pal K, Jindal V: Ventriculo cholecystic shunt in the management of hydrocephalus. Indian Pediatr. 44(6):435-7, 2007
5- Aldana PR, James HE, Postlethwait RA: Ventriculogallbladder shunts in pediatric patients. J Neurosurg Pediatr. 1(4):284-7, 2008
6- Girotti ME, Singh RR, Rodgers BM: The ventriculo-gallbladder shunt in the treatment of refractory hydrocephalus: a review of the current literature. Am Surg. 75(8):734-7, 2009

Esophageal Lung

Esophageal lung refers to a very rare congenital bronchopulmonary foregut malformation where there is an anomalous connection of a main stem bronchus with the esophagus or stomach instead of the trachea. Esophageal lung anomaly usually occurs in the right side with no sex predilection. This anomaly arises when independent collections of cells with respiratory potential arise from the primitive esophagus caudal to

the normal lung bud or when part of the lung bud originates from the dorsal esophagus instead of the ventral laryngotracheal tube. Associated anomalies consist of esophageal atresia, tracheoesophageal fistula, and cardiac defects. In cases of esophageal atresia, is the distal esophagus where the esophageal lung is connected through a bronchus arising from it. The most common clinical presentation is recurrent lower respiratory tract infections, atelectasis, and bronchiectasis arising from this lung which is usually hypoplastic and unilobar. Diagnosis is made with contrast study of the esophagus, trachea and CT Scan. The esophageal lung receives its blood supply from the pulmonary artery different from a sequestration where the blood supply comes directly from an aortic branch. Drainage occurs via the inferior pulmonary veins. Management of esophageal lung consists of resection of the destroyed hypoplastic lung with repair of the esophageal communication. In early cases where the esophageal lung is not destroyed, it has been reimplanted to the trachea.

References:

1- Leithiser RE Jr, Capitanio MA, Macpherson RI, Wood BP: "Communicating" bronchopulmonary foregut malformations. AJR Am J Roentgenol. 1986 Feb;146(2):227-31

2- Srikanth MS, Ford EG, Stanley P, Mahour GH: Communicating bronchopulmonary foregut malformations: classification and embryogenesis.J Pediatr Surg. 1992 Jun;27(6):732-6.

3- Jamieson DH, Fisher RM: Communicating bronchopulmonary foregut malformation associated with esophageal atresia and tracheo-esophageal fistula. Pediatr Radiol. 1993;23(7):557-8.

4- Michel JL, Revillon Y, Salakos C, De Blic J, Jan D, Beringer A, Scheinmann P: Successful bronchotracheal reconstruction in esophageal bronchus: two case reports. J Pediatr Surg. 1997 May;32(5):739-42

5- Tsugawa J, Tsugawa C, Satoh S, Nishijima E, Muraji T, Takamizawa S, Kanegawa K, Akasaka Y: Communicating bronchopulmonary foregut malformation: particular emphasis on concomitant congenital tracheobronchial stenosis.Pediatr Surg Int. 2005 Nov;21(11):932-5

6- Sugandhi N, Sharma P, Agarwala S, Kabra SK, Gupta AK, Gupta DK: Esophageal lung: presentation, management, and review of literature. J Pediatr Surg. 2011 Aug;46(8):1634-7

Histiocytosis

Histiocytosis refers to a general term use for a group of syndromes that involves an abnormal increase in the number of immune cells known as histiocytes. The three majors type of histiocytosis are Langerhans's cell (histiocytosis X), malignant histiocytosis syndrome (T-cell lymphoma), and non-Langerhans's histiocytosis (hemophagocytic syndrome). Histiocytosis X is the most common, and is type of autoimmune condition in which the immune cells attack the body by mistake. Extra-immune cells may form tumors which affect the bones, the skulls and other areas of the body. Most cases are children within the ages of one to 15. Up to 50% of patients with either single or multi-organ manifestation of Langerhans' cell histiocytosis initially present with cutaneous symptoms. Symptoms depend on the system affected such as abdominal pain, bone pain, irritability, fever, swollen lymph nodes, etc. Children above age five often have bone involvement. Punch-out lesions in bone x-ray are characteristics. Management of Histiocytosis X consists of immunosuppression, chemotherapy and radiotherapy. A localized self-limited cutaneous form of the disease can be managed with complete surgical excision. Three types of skin lesions usually

occur: nodules (common), scaling, or crusted papules and soft, yellow papular xanthomas.

References:

1- Chu T: Langerhans cell histiocytosis. Australas J Dermatol. 42(4):237-42, 2001
2- Janka GE, Schneider EM: Modern management of children with haemophagocytic lymphohistiocytosis. Br J Haematol. 124(1):4-14, 2004
3- Gasent Blesa JM, Alberola Candel V, Solano Vercet C, Laforga Canales J, Semler C, PÃ©rez AntolÃ-MR, RodrÃguez-Galindo C: Langerhans cell histiocytosis. Clin Transl Oncol. 10(11):688-96, 2008
4- Abla O, Egeler RM, Weitzman S: Langerhans cell histiocytosis: Current concepts and treatments. Cancer Treat Rev. 36(4):354-9, 2010
5- Querings K, Starz H, Balda BR: Clinical spectrum of cutaneous Langerhans' cell histiocytosis mimicking various diseases.Clinical spectrum of cutaneous Langerhans' cell histiocytosis mimicking various diseases. Acta Derm Venereol. 86(1):39-43, 2006
6- Hussein MR: Skin-limited Langerhans' cell histiocytosis in children. Cancer Invest. 27(5):504-11, 2009

---

* Edited by: Humberto Lugo-Vicente, MD, FACS, FAAP
Professor of Pediatric Surgery, University of Puerto Rico - School of Medicine,
Rio Piedras, Puerto Rico. Director - Pediatric Surgery, San Jorge Childrens Hospital.
Address: P.O. Box 10426, Caparra Heights Station, San Juan, Puerto Rico USA 00922-0426.
Tel (787)-786-3495 Fax (787)-720-6103 E-mail: *titolugo@coqui.net*
Internet: http://home.coqui.net/titolugo

ISSN 1089-7739