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Meconium Plug Syndrome

One of the most significant sign of large bowel obstruction during the neonatal period is failure to pass meconium during the first day of life. The differential diagnosis to consider includes Hirschsprung's disease, anorectal malformations, meconium plug syndrome, small left colon syndrome, hypoganglionosis, neuronal intestinal dysplasia and megacystis-microcolon-intestinal hypoperistalsis syndrome. Meconium plug syndrome (MPS) was first described by Clatworthy in 1956 as a transient form of distal colonic or rectal obstruction in newborns caused by an inspissated, immobile meconium. The plug is white and chalky and rarely involves the small bowel. Clinical manifestations include progressive abdominal distension, vomiting (sometimes is bilious) and failure to pass meconium during the initial two days of life. Though most cases are idiopathic, MPS has been associated with prematurity, hypotonia, hypermagnesemia (reduces acetylcholine release with subsequent myoneural depression), diabetic mother, Hirschsprung's disease and cystic fibrosis. Colonic contrast study suggests the diagnosis (filling defect) and can be therapeutic in most cases to relieve the obstruction. Gastrografin instillation is highly effective in moving the obstructing long, thick plug, even in tiny premature infants with MPS. Suction rectal biopsy to exclude the diagnosis of Hirschsprung's disease along with cystic fibrosis screening is warranted in all cases of MPS. The diagnosis of MPS is made after all the above causes are excluded. Need for surgery is extremely rare.

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Granuloma Annulare

Granuloma annulare is a rare, benign, self-limiting, subcutaneous nodule that can appear in the scalp and/or extremity of infants and children. The nodule is painless, non-mobile, characterized by rapid growth usually identified in the occipital region with absence of

bone involvement. Mean age at presentation is four years. Lesions are most commonly located about the elbow, knee, and scalp. The erythrocyte sedimentation rate could be elevated attesting to the inflammatory nature of the lesion. Otherwise, no ancillary test is specific for this disorder. Excisional biopsy can establish the diagnosis by showing lesions that resembles rheumatoid nodules, consisting of acellular central areas surrounded by palisading histiocytes. Between 20 and 50% of children have local recurrence or distant development of new lesions. Most patients will not progress to any recognized systemic illness or connective tissue disorder. The clinical course is characterized by spontaneous regression. Parental reassurance is warranted.

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Cervical Teratoma

Germ cell tumor (Teratoma) arising in the neck region of an infant is an unusual lesion encompassing between three and 5% of all teratomas found in children. These lesions are histologically benign, usually large and can cause airway obstruction during birth. Cervical teratomas are true neoplasm composed of foreign tissue to the anatomic site of origin with all three germ layers represented. Neural tissue predominates. Fine calcifications can be seen on simple films. Newborns might require intubation within the first few hours after birth due to respiratory distress. The tumor is firm, frequently mobile, multilobular, cystic and well encapsulated. Occasionally the tumor is incorrectly diagnosed as cystic hygroma. Prenatally this tumor can be associated with polyhydramnios, pulmonary insufficiency and fetal demise. Prenatal diagnosis by ultrasound gives the clinician the opportunity of maintaining the materno-fetal circulation until the airway is properly secured during birth (EXIT procedure). Cesarean section is recommended for all tumors larger than five cm in size. After birth and stabilization management consists of prompt surgical excision. Total excision is essential to avoid local recurrence and malignant degeneration. Postoperative monitoring for recurrences should include Alpha-fetoprotein levels in difficult cases.

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* Edited by: **Humberto L. Lugo-Vicente, MD, FACS, FAAP**
Professor/Associate Director of Pediatric Surgery, University of Puerto Rico School of Medicine and University Pediatric Hospital, Rio Piedras, Puerto Rico.
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

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