



# **PEDIATRIC SURGERY Update** ©

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### **Overwhelming Post-Splenectomy Infections**

Splenectomy impairs the immune response to bacterial infections. Such impaired immunologic functions include: formation of antibodies, deficiency of opsonization, lower IgM levels, deficiency in bacterial clearing and tuftsin deficient phagocytosis. Overwhelming post-splenectomy infection (OPSI) refers to a constellation of fast-developing symptoms (high fever, hypotension, rigor, bacteremia, leucocytosis) that leads to death in patients that have undergone removal of the spleen. Mortality rates after OPSI is established are 50%. When obtainable, blood cultures grow encapsulated organisms (pneumococcus, meningococcus, hemophilus, etc.). The vulnerability of OPSI is greatest within the first two years after the splenectomy, and it persists throughout life. The clinical appearance of OPSI can go from a mild event to death from sepsis with pulmonary complications as the most common morbidity. OPSI is more commonly identified after spleen removal for Hodgkin and trauma. Immunization against pneumococcus, H. Influenza and meningococcus should be given to all children who undergo splenectomy since these are the most common organisms associated with OPSI. In the elective situation the vaccine should be given two weeks prior to removal of the spleen. In setting of trauma it should be given as soon as possible, Though several studies have found better functional antibody responses with delayed (14-day) vaccination in the setting of trauma we will continue to administer the vaccine as soon as possible until well-randomized trials are done.

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## Esophageal Hernias

Two types of esophageal hernia recognized are the hiatal and paraesophageal hernia. Diagnosis is made radiologically always and in a number of patients endoscopically. The hiatal hernia (HH) refers to herniation of the stomach to the chest through the esophageal hiatus. The lower esophageal sphincter also moves. It can consist of a small transitory epiphrenic loculation (minor) up to an upside-down intrathoracic stomach (major). HH generally develops due to a congenital, traumatic or iatrogenic factor. Most disappear by the age of two years, but all forms of HH can lead to peptic esophagitis from Gastroesophageal reflux. Repair of HH is determined by the pathology of its associated reflux (causing failure to thrive, esophagitis, stricture, respiratory symptoms) or the presence of the stomach in the thoracic cavity. In the paraesophageal hernia (PH) variety the stomach migrates to the chest and the lower esophageal sphincter stays in its normal anatomic position. PH is a frequent problem after antireflux operations in patients without posterior crural repair. Small PH can be observed. With an increase in size or appearance of symptoms (reflux, gastric obstruction, bleeding, infarction or perforation) the PH should be repaired. The incidence of PH has increased with the advent of the laparoscopic fundoplication.

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## Rectal Duplication

Rectal duplications are very rare encompassing 5% of all GI duplications. They can be cystic or tubular (hindgut), small or involve a significant portion of the proximal recto-sigmoid colon. Most are cystic arising in a retrorectal position and 90% do not communicate with the rectum. Presentation depends on size (mass effect), fistulization (drainage of mucous or pus from the anus or a fistula is a frequent presenting sign), infection, the presence of ectopic gastric mucosa (causing ulceration & bleeding), prolapse, bladder outlet obstruction or malignant degeneration (adenocarcinoma).

Epithelial lining of the duplication is usually colonic, other types being squamous, epithelium, gastric mucosa or urothelial. Barium enema, fistulogram, US, CT and MRI are helpful in localizing the anatomy and extent. Management of the duplication depends on location and size. Surgical excision through a transanal, transcoccygeal or posterior sagittal approach is warrant in retrorectal cysts. Anterior duplications or those associated with a genitourinary malformation require a laparotomy. High index of suspicion is needed to avoid delay and multiple operations. Complete excision is curative.

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\* Edited by: **Humberto L. Lugo-Vicente, MD, FACS, FAAP**

Associate Professor 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 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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