



PEDIATRIC SURGERY Update 8

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Oral Gastrografin

Gastrografin is a valuable contrast material used by radiologists for studies of the gastrointestinal tract. Is a water-soluble highly osmolar material (1900 mOsm) composed of sodium diatrizoate, meglumine amidotrizoate and a wetting agent (polysorbate 80). Gastrografin has a therapeutic value in cases of partial mechanical bowel obstruction, postoperative ileus, dissolution of barium-impacted ileus and stomal dysfunction after gastric resection. Possible mechanisms of action of Gastrografin come from its hyperosmolality promoting proximal bowel distension, increasing the gradient pressure across the obstructing segments, decreasing bowel edema and enhancing bowel motility. A dose of 100 ml of Gastrografin in adults, or 20-50 ml in children is injected via a nasogastric tube and supine plain abdominal radiographs are taken at 30 min and four hrs after administration. At this time if contrast passes to the colon a non-operative course is followed. With clear-cut off sign or absence of contrast material in the cecum in the next 24 hours a diagnosis of unrelieved mechanical obstruction is entertained and surgery probably needed. For absolute diagnosis of successful resolution the abdominal pain should disappear, the abdomen should appear flat and soft, the nasogastric output normalized and the child should have another spontaneous bowel action. Omnipaque, an isosmolar water soluble agent retains its radiographic density in the small bowel better than Gastrografin being a better alternative than Gastrografin in follow-through examinations of intestinal obstruction.

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Ectopic Testis

Whenever a child is born with an empty scrotum, the physical examination should include a diligent palpable search for the undescended testis in the inguinal, femoral, perineal or medial thigh areas. Testes palpable in areas away from the normal descent from the retroperitoneum to the scrotum are termed ectopic testis. An ectopic testis is caused by mislocation of the ipsilateral genito-femoral nerve controlled stimulation causing the gubernaculum to migrate to the wrong site because the chemotactic signal is arising from this wrong place. Testes palpable in the inguinal canal or found intra-abdominally are termed undescended. Compared with undescended testes, ectopic testes are extremely rare found most commonly in the perineal ipsilateral area. Other sites include the femoral canal, suprapubic region (at base of the penis), medial thigh, preperitoneal, umbilical, contralateral scrotum or associated with gastroschisis. The perineal testis is particularly subject to trauma. Management is orchiopexy as soon as the diagnosis is established. The most effective route of approach for repair is inguinal allowing replacement of the testis into the corresponding hemiscrotum without difficulty. Other surgeons use a low scrotal approach due to the low incidence of concomitant hernia. Because of the histopathologic features involved, prognosis is better than that associated with cryptorchidism.

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Gastrointestinal Stromal Tumor

Gastrointestinal stromal tumor (GIST), previously known as gastric leiomyoblastoma, is an uncommon nonepithelial mesenchymal kit-positive (CD117 antigen) tumor of the gastrointestinal tract. GIST are the most common mesenchymal tumors of the gastrointestinal tract. Cell of origin is the interstitial cell of Cajal. The frequency of malignant GIST is 20-30% of the frequency of all soft-tissue sarcomas, but small benign tumors often found incidentally during unrelated surgery or autopsy are more common. GIST occurs in children, young adults or on a familial basis. Most involved children are girls with symptoms of abdominal pain and anemia. CT-Scan or MRI suggests the diagnosis. Most GIST appears in the stomach (submucosal mass), followed by the intestine and rarely the colon. Metastasis occurs to the liver. Large tumors (> 5 cm) with high mitotic activity are associated with bad prognosis. Management consist of complete surgical resection with prophylactic omentectomy to reduce the recurrence of GIST. GIST have lower survival rate and more resistance to chemotherapy.

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

Professor /Academic Director of Pediatric Surgery, University of Puerto Rico - School of Medicine,
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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