



PEDIATRIC SURGERY Update

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Propranolol for Hemangiomas

The most common benign tumor in infancy is a hemangioma. Most infantile hemangiomas appear during the first few weeks of life, proliferate during the first two years of life and involute during childhood. Involution is characterized by changing from a cellular into a vascular nature with progressive deposition of perivascular fibrofatty tissue, abundant mast cells and less endothelial cell proliferation. Management of hemangiomas has included steroids, laser, cryosurgery, interferon, vincristine and resection. Recently, propranolol, a pure selective beta-adrenergic antagonist has been found to hasten involution of infantile hemangiomas. The suggested dose of management of propranolol is 2 mg/kg/day in three divided dose. Children receiving this kind of therapy should have a full cardiologic evaluation pretreatment. The possible mechanism of action for the effect on involution of hemangiomas by propranolol includes vasoconstriction (inhibition of vasodilation mediated by adrenaline), inhibition of angiogenesis (reduced expression of VEGF), induction of apoptosis of endothelial cells and inhibiting nitric oxide production. Propranolol is efficient and highly tolerated. The first noticeable effect is change in color of the hemangioma followed by softening of the lesion and finally regression of size. Optimal length of treatment should cover the proliferative phase and last until maximal improvement has been achieved. The excellent outcome of this therapy has prompted its recommendation as first line therapy of hemangiomas. Infants with renal or hepatic dysfunction, cardiovascular disease, asthma, diabetes or glaucoma should not be managed with propranolol. Side effects of therapy to monitor include bradycardia, hypotension and hypoglycemia.

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Vinyl Glove Ingestion

Toddlers, children with pica and some mentally retarded children introduce objects into their mouth constantly. They are the group with the higher incidence of ingested foreign body. Fortunately most ingested foreign body passes through the gastrointestinal tract without causing problems. Most common foreign body site of impaction is the distal ileum, followed by pylorus, duodenal loop, rectosigmoid and anus in that order. Vinyl glove ingestion has been reported to occur in handicap children causing bowel obstruction, perforation and fistulization. Due to the inability to communicate the diagnosis is usually late in mentally retarded patients. Vinyl glove ingestion produces a bezoar in the stomach or distal ileum. The problem is that these soft pliable gloves become hard and irregular and develop sharp cutting edges after ingestion. The glove hardens creating a barrier to the movement of food or succus entericus. This produces a bowel obstruction. Management consists of surgical removal by either open or laparoscopic technique. Endoscopic removal is not recommended. Vinyl gloves should be removed from the immediate proximity of mentally retarded patients or patients with pica. Institution and families caring for mentally retarded children should monitor the accessibility of vinyl glove or find a safer substitute.

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Gastrointestinal Basidiobolomycosis

Gastrointestinal Basidiobolomycosis (GIB) is a very rare but aggressive fungal infection rarely reported in the literature. The disease is caused by the fungus *Basidiobolus Ranarum*, an environmental saprophyte that infects skin, subcutaneous tissue and rarely the gastrointestinal tract. GIB presents with nonspecific signs and symptoms such as abdominal pain, mass and fever. Patient comes from tropical and subtropical countries. Radiographic findings are consistent with either malignancy or inflammation. Patients have elevated WBC with eosinophilia. GI biopsy specimen shows pleomorphic hyphae surrounded by eosinophilic inflammation (Splendore-Hoeppli phenomenon). Complications include bowel perforation, obstructive uropathy, esophageal varices, and duodenobiliary fistula. Definite diagnosis requires culture of the organism. The fungus enters the GI tract through ingestion of contaminated soil, animal feces or food. Management consists of resection of affected inflammatory bowel and debridement of involved tissue followed by more than three months of antifungal therapy with itraconazole. GIB causes significant morbidity and mortality.

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