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Gallstone Ileus

Gallstone ileus is a very rare disorder characterized by mechanical obstruction of the gastrointestinal tract due to incipient impacted gallstones that passes through a bilio-enteric fistula. Impaction followed by obstruction can occur at the ileum, duodenum or stomach (Bouveret's syndrome). Diagnosis is usually delayed due to lack of specific signs of biliary disease. The classic triad of Rigler (small bowel obstruction, ectopic gallstones and air in the biliary tree) is visualized on abdominal plain films in only one-thirds of cases. Age ranges from 13 to 87 years with most cases seen in older patients. Most bilio-enteric fistulas are cholecystoduodenal type, with a few choledochoduodenal. Work-up includes ultrasound, upper gastrointestinal series with water soluble contrast medium and contrast enhanced computed tomography (CT). Preoperative diagnosis of gallstone ileus significantly increases by combining plain film and US findings. Management consists initially of simple enterotomy (enterolithotomy) which can be done laparoscopically assisted. This is followed by takedown of the bilioenteric fistula and cholecystectomy in a later stage procedure if the medical condition of the patient permits and he continues symptomatic. Some reports encourage enterolithotomy, repair of the fistula and cholecystectomy in one procedure. Other workers report that enterolithotomy alone is adequate treatment in the elderly, and subsequent cholecystectomy is not mandatory. Early diagnosis and treatment improve the outcome.

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Laparoscopic Gastrostomy

During the past 20 years the number of children without associated surgical pathology needing a feeding gastrostomy has increased considerably. The most common indications

to construct a gastrostomy are a permanent or temporal need for enteral feeding access, need for gastric decompression or an access route to the esophagus for controlled dilatations. The gastrostomy can be constructed using an open, percutaneous or laparoscopic technique. In addition when the child has previous gastric surgery or surgery in the upper abdomen, is obese, or an anatomic distortion of the body such as kyphoscoliosis precluding percutaneous placement of a gastrostomy the procedure can be done laparoscopically completely or laparoscopic-assisted percutaneously endoscopic gastrostomy. The lap procedure uses a two-trocars technique, stomach is insufflated and fasteners (T-anchors) or sutures are passed through the abdominal wall to fix the stomach. Using seldinger technique a needle is passed to the stomach followed by a guide wire and progressive dilatations until finally a properly sized gastrostomy tube is passed and the balloon inflated. Alternatively, the child can undergo a percutaneous placement of the gastrostomy under laparoscopic vision to avoid complications such as colon perforation in unique anatomic distorted children.

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Feeding Jejunostomy

Neurologically impaired children benefit from receiving alimentation directly into the stomach. On occasion due to gastric emptying dysfunction, severe retching, or unmanageable recurrent gastroesophageal reflux after failed fundoplication the need for a feeding alternative arises. Such alternative could be feeding directly into the jejunum while venting the stomach. Feeding directly to the jejunum can be done with transpyloric gastrojejunal tube placement, catheter or needle jejunostomy, transgastric jejunostomy through a preexisting gastrostomy, or creating an open roux-en-y tube feeding jejunostomy. The most significant complications are prolapse, leakage and perforation of the stoma. Feeding does not have to be elemental diet only. Children with unmanageable seizure activity in need of multiple drug therapy might not benefit of jejunostomy feeding. The roux-en-y jejunostomy can be performed laparoendoscopically. The use of gastrojejunostomy tubes can be hampered by frequent need of tube manipulation, tube brokage, blockaded or dislodgement.

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