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Closed Gastroschisis

Gastroschisis is a congenital abdominal wall defect occurring toward the right of the insertion of the umbilical vessels. Bowel and viscera protrude through a full-thickness small defect. Contact of the exposed bowel to the amniotic fluid produces serositis with edema and foreshortening of the bowel. The diagnosis is made prenatally using ultrasound. Most babies are born from young mothers. Closed gastroschisis refers to a small group of gastroschisis (6%) where there is spontaneous antenatal closure of the abdominal ring around the prolapsed intestine. Abdominal ring closure in gastroschisis produces several sequelae such as complete midgut infarction, intestinal resorption, small right-sided mummified midgut remnant, or simple luminal occlusion without vascular impairment. In most cases there is some remnant of the extraabdominal bowel identified to the right of the umbilicus, either a shrunken nonviable mass or and obvious gangrenous bowel of normal length. Needless to say the baby ends with dilated proximal bowel due to the created intestinal atresia and short bowel from the ischemic event. Survival in closed gastroschisis depends on the length of proximal remnant bowel left within the abdominal cavity. Close antenatal monitoring may prevent severe bowel loss in some cases using bowel dilatation as an index of suspicion and performing prenatal birth in such situations. Mortality of closed gastroschisis can approach 75% due to short bowel complications such as sepsis and liver failure.

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Laparoscopic Excision Choledochal Cyst

The management of choledochal cyst entails complete excision of the cyst and

reconstruction using roux-en-y hepaticojejunostomy in most cases or hepaticoduodenostomy. During the last ten years there has been a tendency for the procedure to be performed laparoscopically. Laparoscopic excision of choledochal cysts with reconstruction is feasible and can be performed safely with a low intraoperative complication rate. The laparoscopic technique includes excision of the gallbladder and cyst, followed by a Roux-en-Y anastomosis constructed after exteriorization of the small bowel via an infraumbilical trocar incision or intracorporeally. After repositioning of the bowel, an end-to-side hepaticojejunostomy is carried out laparoscopically. Dissection close to the cyst wall is mandatory to prevent injury to the hepatic vessels, especially the portal vein. Hepaticoduodenostomy is s simple procedure than hepaticojejunostomy, with shorter operating time reducing the risk of postop adhesions, can be performed totally laparoscopically giving superior cosmetic results, but carries a higher incidence of postop cholangitis and bile-reflux gastritis. Laparoscopy presents a longer operation duration than laparotomy and requires more instruments. Less blood loss and chances of transfusion is seen in the laparoscopic group due to the improved accuracy provided by the magnified view. Cases without severe infection, without common hepatic duct or left/right duct strictures, and those without a cyst deeply embedded in the pancreas can be left undrained. In neonates the laparoscopic procedure curtails further complications of the cyst and reverses the derangement of liver function associated with the choledochal cyst.

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Radiation Exposure

Children are more radiosensitive than adults. The use of CT-Scans in abdominal pain, trauma and a diverse diagnostic entities has increased significantly during the past twenty years. CT-Scans deliver non-uniform radiation doses across the body. Several studies have reported significant increase cancer risk after radiation exposure in the range received from multiple CT-Scans. Since the bone marrow and the brain tissue are very radiosensitive, leukemia and brain tumors are the most common tumors developing

after ionizing radiation. For children with normal life expectancy the lifetime excess risk of any incident cancer for a head CT scan is about one cancer per 1000 head CT scans for young children (<5 years), decreasing to about one cancer per 2000 scans for exposure at age 15 years. For an abdominal or pelvic CT scan the lifetime risks for children are one cancer per 500 scans irrespective of age at exposure. Means to reduce this risky situation include using low-dose abdominal CT-Scans and alternative diagnostic procedures such as ultrasound and MRI when applicable. Ultrasound has been found to be an excellent tool as initial diagnostic modality in abdominal pain suspicion of appendicitis. There is wide agreement that the benefits of an indicated CT scan far outweigh the risks.

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