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Colonic Atresia

Colonic Atresia (complete absence of the lumen of the colon) is a rare cause of congenital bowel obstruction comprising almost 5% of all cases of bowel atresia in newborns. Colonic atresia (CA) can be associated with distal skeletal deformities, imperforate anus, Hirschsprung's and abdominal wall defects. Complicated cases are associated with partial or total hindgut absence and severe deformities of the genitourinary tract (bladder and cloacal exstrophy). Colonic Atresia is the result of an intrauterine mesenteric vascular accident. Clinically they show abdominal distension, bilious vomiting and obstipation. Simple abdominal films shows hugely distended distal bowel loops and air-fluid levels. Barium enema will show a microcolon. Operative intervention is urgent since a competent ileo-cecal valve makes the obstruction a close loop. During surgery patency of the gastrointestinal tract must be confirmed distally to the atresia to avoid missing a second associated atresia. For atresias located in the right colon, resection and end to oblique primary anastomosis is recommended. Atresias located in the left colon, critically ill children or complex combinations of absent hindgut should be initially managed with a diverting colostomy. Suspect the coexistence of Hirschsprung's disease and colon atresia when a functional obstruction is present after repair of the atresia. Suction rectal biopsy before closing the colostomy should solve this problem. Prognosis depends on type of surgery and associated malformations.

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Colonic Strictures

Colonic strictures in infants are most commonly the result of a late complication from

neonatal necrotizing enterocolitis (NEC). Other times they can be congenital (stenosis), develop in children receiving high dose pancreatic enzyme supplement (cystic fibrosis) or after inflammatory bowel disease. Post-NEC strictures occur both after medical and surgical management. In medically-treated infants symptoms of bowel obstruction usually begin six to eight weeks after resolution of NEC, while surgically managed infants develop asymptomatic strictures distal to an enterostomy. The clinical manifestations of colonic strictures include abdominal distention, bilious vomiting, hematochezia, diarrhea, disaccharide intolerance, chronic gastrointestinal blood loss and growth failure. Splenic flexure and left colon are the most common sites of NEC stricture formation. Contrast study of the distal bowel can establish the diagnosis in symptomatic cases. Although routine studies have no advantage over clinical follow-up, some studies propose a diagnostic protocol using an early upper GI study with non-ionic water soluble contrast material followed by a contrast enema in suspicious cases as a reliable method of diagnosing strictures. Contrast enemas are essential prior to restoring bowel continuity after surgery. Balloon catheter dilatation of the stricture has been tried but recurrence closure rates are too high to be recommended as definite therapy. Once identified management consists of resection and primary anastomosis of the stricture.

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Colonic Volvulus

Volvulus of the colon represent a rare cause of bowel obstruction in children. Colonic volvulus can occur in the sigmoid (most common site), transverse and cecal colon. They all share the same pathogenetic mechanism: a long freely redundant mobile colon and mesocolon, lack of fixation and short mesenteric attachment of the proximal and distal mesocolic limbs. Colonic volvulus have been associated to chronic constipation, high fiber diet, mental retardation and Hirschsprung's disease. Central abdominal pain of sudden onset followed by abdominal distension, tenderness, bloody mucoid discharge or inability to pass flatus is characteristic. Simple abdominal films will show large bowel dilated loops with air-fluid levels. Barium enema showing a bird beak appearance of the colon and air-contrast mirror image in the proximal end is diagnostic, and in a few cases therapeutic. Management is operative since colonoscopy or enema reduction is associated with an

unacceptable high rate of recurrence. Surgery consist of resection of the involved part with end-to-end anastomosis for limited segmental disease and colopexy for extensive bowel involvement.

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