Surgery Update is a newsletter from Children’s Physician Group—Pediatric Surgery intended to keep you informed regarding the latest in pediatric general surgery.

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Call 404-785-6895 (Scottish Rite) or 404-785-8787 (Egleston) to make a referral or to discuss potential surgical treatments for your patients.

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**Incidental Intestinal Obstruction**

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Neonatal obstruction is the most common surgical emergency during the newborn period, occurring in approximately 1 in 2,000 births. Boys are 3 times more likely to have this condition compared to girls. A circumscribed, abdominal distention to the point of distress on the first day of life are common symptoms, but many times there are more subtle history and physical exam findings that can clue us in to the type of obstruction. In general, outcomes are excellent, but a high index of suspicion is required to promptly diagnose a surgical emergency and prevent devastating outcomes. The diagnosis will highlight differences of congenital intestinal ileal obstruction, as well as describe the evaluation, diagnosis, and treatment.

**Malrotation with midgut volvulus**

Malrotation describes a spectrum of anatomic abnormalities of incomplete rotation and fixation of the intestine during fetal development. These disorders most commonly present as a midgut volvulus in infancy and childhood, with the potential for ischemic infarction of the intestine supplied by the superior mesenteric artery (duodenum to the middle ileum). This can lead to death or severe complications, such as short bowel syndrome, a need for long-term parenteral nutrition and liver failure.

The incidence of malrotation leading to clinical disease is 1 in 6,000 births. The most common presentation of malrotation with midgut volvulus is the acute onset of bilious emesis during the neonatal period. A plain abdominal X-ray may show a distended midgut volvulus is the acute onset of bilious emesis during the neonatal period. A plain abdominal X-ray may show a distended stomach, which can lead to the diagnosis of congenital midgut volvulus. During the neonatal period, the stomach is often distended due to excess salivation, which requires repeated suctioning and prompts parents to feed the infant early. This can lead to the suspicion of congenital midgut volvulus. It is important to note that the results of air contrast study can confirm the diagnosis, showing the classic “double-bubble.”

**Duodenal atresia**

Duodenal atresia (DA) occurs in 1 in 6,000 births and is thought to be caused by a failure of the duodenum to recanalize during fetal development. Nearly half of infants with DA will have other anomalies and approximately one-third will have trisomy 21. DA can sometimes be classified into a stenosis, or incomplete obstruction. Depending on the exact site of obstruction, an infant may present with either bilateral or bilateral diseases. Polyhydramnios is often identifiable on fetal ultrasound. An upright abdominal X-ray is usually sufficient to confirm the diagnosis, showing the classic “double-bubble.”

**Small bowel atresia**

Jejunoileal atresias occur in approximately 1 in 1,000 births and are thought to be the result of an in utero vascular accident. Polyhydramnios, bilious emesis and abdominal distention are the most common findings on exam. Abdominal X-ray will show varying amounts of dilated loops of bowel, depending upon how proximal or distal the obstruction is. A contrast enema is quite useful to determine the location of the atresia. The vast majority of infants will have a meconium, but little meconium has passed the area of obstruction, so the usual colonic will not be dilated. If the accident leading to the atresia occurs extremely late in gestation, the colon will be flaccid. Treatment is abdominal exploration. Resection of the stenotic segment and primary anastomosis is performed when possible, but certain circumstances may call for colostomy, with planned reconnection when the child’s older.

**Imperforate anus**

Imperforate anus (IA) occurs in approximately 1 in 4,000 births and is the most distal form of obstruction in the GI tract. The physical exam findings and complexity of the disease are quite variable, and are different between males and females. In males, the most common defect is IA with a rectourethral fistula, in females, it is IA with a rectovestibular fistula.

Children’s New Vascular Anomalies Clinic

For children with vascular anomalies, the number of facilities capable of providing comprehensive treatment is limited. Vascular anomalies occur when arteries, veins, capillaries or lymph vessels do not develop properly. Many vascular anomalies are congenital, but others may develop later in a child’s life. These anomalies fall into two main categories: vascular tumors and congenital hamartomas, and vascular malformations, such as venous, lymphatic, capillary and arteriovenous malformations. Our Vascular Anomalies Clinic includes providers and supportive services from 16 different pediatrics specialties, including hematology, interventional radiology, otolaryngology, pathology, pediatric surgery, plastic surgery and radiology. Our clinic is the only one of its kind in the Southwest and one of a handful of centers in the country to offer this type of coordinated care. If you have a patient whom you believe might benefit from evaluation by our team, please call 404-785-KIDS (5437) for an appointment or contact Rachel Swerdlin, R.N., C.P.N.P., Vascular Anomalies Clinic Coordinator, at Dr. Bansal and Bussey.

Since anastomotic malformations can be a part of the VACTERL association, the initial workup must include plain abdominal X-rays, echocardiogram, renal ultrasound and a spinal ultrasound. If the location of the fistula is known (i.e. meconium is seen on the neonate’s perineum), a repair can be performed in the newborn period. If the location is unknown or the infant has complications, a descending colon should be initially placed. An anorectoplasty can be done once the fistula has been identified and the reconstruction can be planned.

Hirschsprung’s disease

Unlike the other causes of neonatal obstruction, Hirschsprung’s disease (HD) is not a mechanical obstruction, but a functional one. It is characterized by the absence of ganglion cells in the myenteric and submucosal plexuses of the distal intestine. Patients with HD present with functional intestinal obstruction at the level of aganglionosis. The incidence is approximately 1 in 5,000 births.