



# **PEDIATRIC SURGERY Update** © **Vol 16 No 03 MARCH 2001**

## **Congenital Pouch Colon**

Congenital pouch colon (CPC) is a significant pouch dilatation of a shortened colon associated with a high anorectal malformation (colo-vesical fistula). First described in 1959 most reported cases come from Northern India with male predominance (4:1). Plain films showing an enormous air-fluid level occupying more than half the width of the abdomen sometimes showing gas within the bladder is diagnostic. Subtypes described variate in the amount of colon involved, but patients can be classified into two types: (1) partial CPC - a segment of normal colon is present between the ileum and the sac, and (2) complete CPC where the ileum opens directly into the sac. A wide fistula with the bladder is usually found, though the CPC can end blindly or as a fibrous cord. Females are associated with a vesical or vestibular fistula. Management depends on the general condition of the child, associated anomalies and pouch anatomy during initial surgery. Ideally division of the colo-vesical fistula, tubular colorrhaphy and end colostomy should be done. With life threatening anomalies window colostomy with or without division of the fistula is best. An ischemic pouch should be removed. Those cases with less colon involvement can undergo a proximal end colostomy with pouch excision. Definite pull-through reconstruction is done later in life using the posterior sagittal approach. Long-term results of continence are not encouraging in children that have undergone tubular colorrhaphy.

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## **Adrenal Hemorrhage**

Retroperitoneal adrenal Hemorrhage usually occurs at birth or during the first postnatal days the result of traumatic or breech delivery, large fetal size, disorders of hemostasis, perinatal asphyxia and fetal hypoxia producing anemia from blood loss accompanied by an enlarging flank mass. Other times adrenal Hemorrhage manifests as unexplained

hyperbilirubinemia with a mass in the flank in a healthy infant. Most cases affect the right adrenal gland (75%). Differential diagnosis includes neuroblastoma, cortical renal cysts, adrenal abscess, obstructed upper cortical renal cyst, and obstructed upper excretory tract in duplicated kidney. Diagnosis of neonatal adrenal hemorrhage is based on ultrasound (echo-free mass superior to downward displaced normal kidneys with linear calcifications). Fine needle aspiration can be done to confirm the diagnosis. The hematoma resolves gradually under supportive management by three months of age as documented by serial sonography. Lesion evolution with progressive decrease in its size and development of calcifications on repeated sonographic follow-up studies may be the only reliable sign in preventing unnecessary surgery.

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## **Neonatal Laparoscopy**

Technical advances and new instrumentations have made possibly the use of minimal invasive procedures in smaller infants. Advantage includes the magnification by the loupes and video, the excellent illumination and exposure. Diagnostic laparoscopy can be used in the neonatal period for: 1) the evaluation of the cholestatic infant, 2) abdominal, pelvic (ovarian cysts) and retroperitoneal masses and 3) intersexual defects. At the therapeutic level laparoscopy can be utilized for Hirschsprung pull-through surgery and bowel malrotation. Other laparoscopic procedures done during the neonatal period include fundoplication, pyloromyotomy, placement of dialysis catheters, liver biopsy, gastrostomy and placement of VP shunts. From the physiologic point of view laparoscopic procedures in newborns can be associated with hypothermia and hypercapnia. Hypothermia (increased heat loss) is due to rapid insufflation of carbon dioxide, gas leak and multiple instrument changes. Hypercapnia is monitored using end-tidal CO<sub>2</sub> and can be neutralized hyperventilating and maintaining high peak insufflation pressures during the procedure. No cardiac depression is noted when the intraabdominal pressure is maintained at 6 to 8 mm Hg. Transient arrhythmias have been observed in infants.

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