



PEDIATRIC SURGERY Update ©

Vol. 48 No. 04 APRIL 2017

Congenital Chylous Ascites

Congenital chylous ascites is a rare and difficult to managed medical condition affecting infants younger than three months characterized by milky ascites with high level of triglycerides. Literature has described three basic causes for the formation of chylous ascites, namely trauma, obstruction of the lymphatic ducts and lymphatic disorders. Lymphatic malformations are the most common cause of chylous ascites in the neonatal period. Obstructive causes include tumors, solid masses, intussusception and malrotation. Diagnosis is obtained by paracentesis and studying the nature of the ascitic fluid characterized by a high level of chylomicrons, triglycerides and lymphocytes. Diagnostic imaging should include US, CT and MRI of the abdomen to exclude conditions needing immediate surgical intervention. Initial management consists of low-fat diet with medium chain triglycerides, since they will be directly absorbed into the portal bloodstream and metabolized into free fatty acids in the liver reducing the lymphatic flow. Should this strategy failed then the child should be placed NPO with total parenteral nutrition along with administering somatostatin analogues for several weeks. Refractory cases to the above-mentioned management should be treated surgically. The main purpose of surgery is identifying a visible point of leakage in the abdominal lymphatic circulation through which lymph leaks into the peritoneal cavity amenable to surgical ligation or occlusion. Lipophilic dyes (Sudan III) or high-fat diets should be given preoperatively to facilitate visualization of the sites of lymphatic leakage. Lymphoscintigraphy is traumatic, difficult to perform in small children, expensive and lacks accuracy in identifying the site of leakage. Other surgical alternatives include deviating the lymphatic leak to the bloodstream using a peritoneo-venous shunt (Leveen). Shunts of this type obstruct and get infected easily. Other authors have used fibrin glue over a hemostatic oxidized cellulose mesh covering an extensive area of the peritoneum suspected of the leak.

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Congenital H-type Rectourethral Fistula

Congenital H-type rectourethral fistula is a very rare anorectal malformation exclusively described in males characterized by a fistulous tract between the rectum and the urethra with an external anal opening in a normal or ectopic position. Most cases are associated with an atretic, hypoplastic or stenotic anterior urethra. These anomalies are more common in children of Asian origin. Diagnosis of this condition can be difficult to make, can pass alone causing disastrous urological consequences to the child. Affected babies have difficult micturition with passage of meconium through urine, urine per rectum or present with recurrent urinary tract infections. Most useful diagnostic test is a voiding cystourethrogram. Usually the fistula communicates internally with the posterior urethra at the verumontanum. But the fistulous tract can be between the membranous urethra and lower anorectal canal, or higher in the prostatic urethra and rectum. The distal opening may lie in the perineum, anal canal or rectum. The tract is lined with squamous epithelium. Embryologically the fistula is explained by persistence of the "cloacal duct" during division of the cloaca. Misalignment of the Tourneux fold and Rathcke's plicae during partition of the cloaca leads to the development of the fistulous tract. Major associated malformations occurs in almost 60% of affected patients with male carrying a higher incidence of severe cardiac, renal vertebral and gastrointestinal anomalies. Management of this condition has been plague by recurrence of the fistulous tract, multiple surgical procedures and later development of fecal incontinence. For low fistulas an anterior perineal approach of closure is suggested. Higher fistulous tracts will need a protective colostomy and use of an anterior or posterior sagittal approach.

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TAP Block

Transversus abdominis plane (TAP) block is a recent and promising anesthesia technique used for pain management following abdominal surgery in children and adults. TAP blocks the sensory nerve supply to the anterior abdominal wall by placing ultrasound-guided a local anesthetic in the transversus abdominis plane. The abdominal wall has three muscle layers: external and internal obliques and transversus

abdominis. They are innervated by mixed somatic nerves that course between the transversus abdominis and the internal oblique muscles. Blocking the sensory nerve supply to the anterior abdominal wall with long acting local anesthetics provides effective postoperative analgesia in open surgical procedures in children. The same cannot be conferred for laparoscopic procedures as TAP block has been found with very little benefit over local anesthetic port-site infiltration. There is a lack of clinically significant complications when TAP block is performed in children. The most important complications recognized are peritoneal puncture, visceral puncture and intravascular injection of the local anesthetic utilized causing systemic toxicity. TAP block reduces pain and opiate use in children. Use of higher local anesthetic doses for the TAP block in children does not provide benefits on early pain scores but seems to improve analgesic duration and decrease the need for additional analgesics more than twenty-four hours after surgery. TAP block has been effective as part of multimodal analgesia for children undergoing open inguinal hernia repair with significant attenuation in the neuroendocrine stress response induced by surgery. We need further testing and more randomized trials before encouraging the technique as state of the art in children.

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