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Wilms in HSK

Wilms tumor (WT) is regarded as the most common malignant renal tumor in children. Several anomalies/syndromes are associated with WT, this includes: aniridia, hemihypertrophy, cryptorchidism, hypospadia, ectopia, duplication and horseshoe kidney (HSK). HSK is a common renal anomaly where the right and left kidneys are fused. HSK has a tendency toward neoplasia such as hypernephroma and WT. WT develops in HSK as a result of sequestered metanephric blastemas in the isthmus, which is known to harbor malignant potential. Most cases present with an asymptomatic abdominal mass. Almost in one-third of children with WT and HSK the diagnosis is not made preoperatively. Salient features in diagnosis using CT-Scan of WT in HSK include malrotation of the kidney, hydronephrosis, and the presence of an isthmus. HSK are normally situated lower than normal kidneys and have an anomalous blood supply with 4-6 renal arteries supplying the HSK. The blood supply to the isthmus may come from the renal artery, aorta WT in HSK is usually managed as WT in a solitary kidney and benefits from preoperative chemotherapy since a more planned and conservative procedure can be performed later, the surgical morbidity associated with tumor spillage and incomplete resection is reduced and more renal function is preserved. CT-reconstructed angiography is helpful in planning the final excision and mapping the blood supply in WT arising from HSK. During resection if the tumor involves one kidney in HSK the functional isthmus has to be resected along with the tumor to avoid a urinary fistula. If the tumor arises from the isthmus, isthmusectomy with bilateral lower pole nephrectomy is needed. Annual surveillance of children with HSK looking for WT development is not recommended. Estimated four-year survival of WT in HSK is above 80%.

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Epididymal Cysts

Epididymal cysts (EC) are benign lesions diagnosed during evaluation of scrotal symptoms of pain, fullness or palpable scrotal masses in children and adolescents. The etiology of epididymal cysts is probably a congenital anomaly related to hormonal disorders during embryonic life, the result of maternal exposure to diethylstilbestrol or part of the testicular dysgenesis syndrome. An association of epididymal cysts with cryptorchidism, cystic fibrosis and von Hippel-Lindau disease has also been reported. Average age of appearance of EC in children is ten to fifteen years. Physical examination is very important, but not sufficient for the diagnosis and must be completed by scrotal ultrasonography, which shows an echo-free cystic epididymal structure. Associated findings in children with EC include hydrocele, varicocele and testicular microlithiasis. An association of EC with increased testicular size is also observed. EC occurs anywhere within the epididymis and does not contain sperm. Cyst size and symptoms play a role in deciding the choice of management. Some workers suggest conservative management for cyst smaller than 10 mm, while surgery should be reserved for cysts larger than 10 mm in diameter, but this fact dose not take into account the symptoms of the child. Conservative management of asymptomatic EC with serial ultrasound follow-up is recommended since most EC involutes with time. Children with intractable scrotal pain or cyst enlargement should undergo surgery. Surgical management consists of cyst excision through a scrotal approach.

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Genitofemoral Nerve Injury

The genitofemoral nerve (GFN) arises from the L1 and L2 nerve roots. The genital branches of the GFN consist of both motor and sensory fibers Motor fibers to the cremasteric muscle provide thermoregulation for the testes where sensory fibers supply a portion of the scrotal skin and upper thigh. The genital branch of the GFN passes through the abdominal inguinal ring and descends behind the spermatic cord to the scrotum. The femoral branch of the GFN is located caudad and lateral to the genital branch and travels on the anterior surface of the external iliac artery under the inguinal ligament to supply the skin of the mid-anterior thigh. There exists definitive risk of injuring the GFN during open inguinal hernia repair, appendectomy and laparoscopic

varicocelectomy in children and adults. Mesh grafts, sutures and scar may injure the GFN during herniorrhaphy. In fact the constant bulging hernial sac by itself might be a cause of GFN entrapment and subtle injury before surgery. Injury to the GFN may present with pain radiating from the lower abdomen to the anterior thigh and labia majora in women and the scrotum in men. Postsurgical chronic pain after hernia repair may be caused by injury to the iliohypogastric, ilioinguinal or genitofemoral nerves. Is sometimes difficult to identify the specific nerve injury that is giving rise to a patient's post herniorrhaphy neuritic symptoms because these nerves are derived from overlapping nerve roots and closely localize in the area of surgery. Blocking the trunk nerve proximal to the site of injury by local anesthetic will help identify the nerve involved and provide temporary relief. Once identified the origin of persistent pain more permanent invasive treatment can be instituted using surgery, stimulation or percutaneous pulse radiofrequency.

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