



# **PEDIATRIC SURGERY UPDATE ©**

## ***Vol 03 No 06 DECEMBER 1994***

### **SCT**

Sacrococcygeal teratoma (SCT) is the most common extragonadal germ cell tumor in neonates with an incidence of one in 30-40,000 live births. Three-fourth are females. SCT present as a large, firm or more commonly cystic masses that arise from the anterior surface of the sacrum or coccyx, protruding and forming a large external mass. Histology consist of tissue from the three germ cell layers. SCT is classified as: mature, immature, or malignant (endodermal sinus) and produces alpha-feto protein (AFP). Prenatal sonographic diagnostic severity criteria are: tumor size greater than the biparietal diameter of the fetus, rapid tumor growth, development of placentomegaly, polyhydramnios and hydrops. Large tumors should benefit from cesarean section to avoid dystocia or tumor rupture. Management consist of total tumor resection with coccyx (recurrence is associated with leaving coccyx in place). Every recurrence of SCT should be regarded as potentially malignant. Malignant or immature SCT with elevated AFP after surgical resection will benefit from adjuvant chemotherapy. Survival is 95% for mature/immature tumors, but less than 80% for malignant cases. Follow-up should consist of (1) meticulous physical exam every 3-6 months for first three years, (2) serial AFP determination, (3) fecal/urodynamic functional studies. Long term F/U has found a 40% incidence of fecal and urinary impairment associated to either tumor compression of pelvic structures or surgical trauma.

### **Grave's**

Hyperthyroidism in children is caused by a non-immune autonomous adenoma (rare), hyperfunctional nodular goiter (less frequent), or more commonly diffuse immunogenic gland enlargement (Grave's Disease). Grave's children manifest initial neurologic symptoms and tachycardia. Management consist of: (1) medical- antithyroid drugs, hormone substitution, and iodine therapy, (2) surgical excision, or (3) radio-iodine therapy (not routine used due to possible induction of malignancy). After two years of antithyroid drug therapy hyperthyroidism recurs in 40-70% of cases. The only factor predicting remission with drug tx is absence of ophthalmopathy. Main disadvantages of antithyroid drugs are the need for prolonged treatment and risk of recurrence.

Indications for surgery are: poor compliance with drug tx, recurrent hyperthyroidism after prolonged (two years) drug tx, side effects to drugs (neutropenia, vasculitis, etc.), a cosmetically unpleasant or obstructive symptomatic goiter. Before surgical therapy clinical and biochemical euthyroidism should be obtained. Extent of resection is debatable and depends on: surgical expertise, extent of recurrent hyperthyroidism (8-12% incidence), and rate of hypothyroidism complications. Most prefer subtotal thyroidectomy (retaining 6-10 GM of tissue), other total gland removal. Surgical complications are: recurrent nerve paralysis, temporary or permanent hypoparathyroidism, and post-op thyrotoxic crisis. Ophthalmopathy is less severe and disappears when euthyroidism is obtained. Lymphocytic infiltration if found in three-fourths of glands removed.

### **LH-RH**

Gonadotropin releasing hormone (LH-RH) is a decapeptide that when used as nasal spray will cause descent of one-third of unilateral palpable undescended testis, effect potentiated with the subsequent use of Human Chorionic Gonadotropin. Treatment is more effective the younger the age of the boys and the near is the testis to the scrotum. LH-RH is recommended as initial therapy of testicular non-descent because is non-invasive, has good response in younger age groups, and limited side-effects. The number of germ cells per tubule (fertility index) increases in patient who responds to LH-RH. Contraindications for hormonal therapy are: (1) coexistent inguinal hernia or hydrocele testis, and (2) previous inguinal operation. High non-palpable testis have poor response to hormonal therapy.

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