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Hashimoto Thyroiditis

Hashimoto thyroiditis (HT) is a chronic lymphocytic autoimmune thyroiditis seen with some frequency in adolescent females and children. Most common cause of asymptomatic enlargement of the thyroid gland in children in iodine-sufficient geographic regions. Thyroid cell damage in HT is caused by antithyroid antibody-dependent cell-mediated direct toxicity linked to deficiency in antigen-specific suppressor T lymphocytes. The gland shows lymphocyte infiltration with follicular cell hyperplasia. Thyroid antibodies are elevated. Radionuclear scans show absent uptake. Initially the child develops elevated thyroid hormones (T3 and T4) followed by symptomatic hypothyroidism. Following the hypothyroid phase there is final recovery in most patients. Indications for surgery in HT include: 1- firm enlargement of the gland causing tracheal compression with dyspnea, hoarseness or swallowing difficulties, 2- failure to respond to suppressive therapy and development of symptomatic hyperthyroid goiter, and 3- development and enlargement of a solitary thyroid nodule. The incidence of malignancy in HT is low. Differentiating a hyperplastic follicular cell nodule from a follicular neoplasm is very difficult using fine needle aspiration biopsy. Patient with malignant nodules in Hashimoto glands are most commonly papillary, females, low frequency of extrathyroidal invasion and nodal metastasis with absent distal metastasis. It is believed the lymphocytic infiltration of HT causes a form of immune reaction to control tumor growth and proliferation.

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Bile Reflux Gastritis

Alkaline reflux gastritis develops in patients with previous operations that destroy the integrity of the pylorus as a true sphincter by removing (antrectomy), bypassing

(gastrojejunostomy) or obliterating (pyloroplasty) the pylorus. It can be seen in children after repair of duodenal atresia. Symptoms of bile reflux gastritis consist of epigastric pain, bilious vomiting, anemia, gastrointestinal bleeding and weight loss. Eating increases the discomfort. Endoscopy with biopsy in the presence of achloridia is diagnostic. Mainstay of treatment for bile reflux gastritis consists of histamine 2-receptor blockers, aluminum-containing antacids (to absorb bile salts) and metoclopramide (improve gastric emptying). Medical management should be tried for many months. The operation of choice is a Roux-en-y diversion. If the original operation was vagotomy with pyloroplasty, the gastric antrum should be removed (to eliminate cephalic and humoral phase of gastric secretion) and a Roux-en-y gastrojejunostomy constructed.

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Ovarian Teratoma

Two-third of all malignant tumors of the ovary in children are germ cell tumors. Overall, teratoma is the most common germ cell tumor. Ovarian teratomas contain tissue from the three primitive germ cell layers in an ectopic location and seldom appear before the age of five years. Ovarian teratomas are classified as mature, immature and malignant. The vast majority of ovarian teratomas in children are benign, cystic, mature tumors. Plain abdominal films may show calcifications. Degree of immaturity depends on cellular differentiation and foci of neuroepithelium. Immature teratoma can grow into large tumors presenting with ascites, peritoneal implants and liver metastasis. Also, AFP and HCG levels can be elevated. Survival in ovarian teratoma is inversely proportional to the grade of immature elements present and stage of the disease. Mature teratomas are cured with surgical resection only. Surgery is also curative for most children and adolescents with resected ovarian immature teratoma of any grade, even when elevated levels of serum AFP or microscopic foci of yolk sac tumor are present. Chemotherapy should be reserved for cases with relapse. Upon resection surgeons must collect peritoneal fluid for cytology, examine peritoneal surface and liver, perform wedge biopsy of suspicious contralateral ovarian lesions, omentectomy and lymph node sampling of enlarged retroperitoneal nodes.

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