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Thymoma

The thymus remains quite prominent in the anterior mediastinum during the first year of life causing discrepancy between a normal and hyperplastic gland. Involution occurs in response to stress and sepsis. Rebound hyperplasia after involution can be seen after cardiac surgery, major burns and chemotherapy. Thymoma is the most common neoplastic tumor found in the thymus of children and adults. There is a close relationship between myasthenia gravis and thymoma. Most thymic tumors in children are benign, share a low rate of association with myasthenia gravis and a favorable prognosis. Thymomas are considered malignant on the basis of macroscopic and microscopic capsular invasiveness. The most significant predictors of long-term survival of thymoma include complete excision, stage I disease, and lymphocytic histology. Management of thymoma entails surgical resection through a median sternotomy. To increase survival a policy of aggressive, complete surgical resection of all thymomas is advice. Thymoma behaves as a rather indolent tumor, with most deaths from causes unrelated to thymoma or its direct treatment. Chemotherapy is reserved for patients with refractory or metastatic disease. Thymomas are moderately radiosensitive but radiation therapy is not an attractive option for children due to side-effects on developing organs.

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Peritoneal Dialysis

Peritoneal dialysis is the preferred technique of management utilized in almost two-third of children with chronic renal failure. The most common complications of peritoneal dialysis are peritonitis, catheter infection and dialysate leaks. Catheter infection risk is higher among children less than five years of age or with a previous history of infection. Infection

occurs because the dialysate causes an alteration in the normal protective mechanism of the peritoneum reducing the number and function of macrophages. In the acute setting the peritoneal catheter can be placed percutaneously into the peritoneum using the Seldinger technique or alternatively the child hemodyalised using a central venous access (Quinton Catheter). In the elective situation the child is taken to the operating room and a peritoneal (Tenckhoff) cannula placed under direct vision into the peritoneum under general anesthesia. The open or laparoscopic technique permits removal of the omentum (omentectomy) to avoid later occlusion of the cannula during passive effusion of the solution. The catheter should go through the muscles (rectus) and point inferiorly to reduce the incidence of catheter infection. Leakage and adequate fluid effusions (at least 80% of the unfused fluid should drain back rapidly) are tested before terminating the surgical procedure. The cannula is ready to be used, but low volumes should be initially utilized to minimized incisional pain and reduce leaks.

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Myasthenia Gravis

Children constitute 10% of all cases of Myasthenia Gravis (MG) with three individual forms identified: neonatal, genetic or juvenile. The neonatal phase is transient, associated with a newborn whose mothers have MG and the baby recovers completely after several days or weeks. Genetic MG is not associated to a parent with MG with symptoms confined to ptosis and almost no weakness. The juvenile phase of MG is similar to the adult phase occurring after the age of ten. Symptoms include fluctuating weakness and fatigue in the ocular (diplopia), facial (ptosis), bulbar or limb muscles. weakness, fatigability, ptosis and diplopia. The child develops motor weakness, preservation of sensation, coordination and deep tendon reflex. MG is an autoimmune disease in which there is loss of acetylcholine receptors at the neuromuscular junction. Thymic enlargement occurs in patients with MG. MG is best managed: 1) enhancing neuromuscular transmission with cholinesterase inhibitors though the effect is partial with time; 2) using immune suppression with steroids, azathioprine or cyclophosphamide; 3) with short term immune therapy including plasma exchange or intravenous immune globulin; 4) removal of the thymus (thymectomy) if its

enlarged or the child has increase medication requirements.

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