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.

References:

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 hemodlyalised 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.

References: