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Thyroid Cysts

Pediatric thyroid nodules are a source of concern for physicians as they can harbor a malignancy. Initial work-up should include neck ultrasonography to define anatomic location and determine whether we are dealing with a cystic, solid or mixed lesion. Cystic and mixed solid-cystic thyroid masses in children are most commonly benign lesions thought to arise from necrosis and degeneration of thyroid nodules. In a few cases (8%) a malignancy can present as a cystic lesion. Next step in management of a cystic thyroid lesion is fine-needle aspiration cytology to establish a diagnosis. Unfortunately, needle aspiration has yield false-negative results in patients with cystic papillary carcinomas. The cysts in patients with cancer appear to originate from necrosis of tumors measuring between two and 4 cm in diameter. Ethanol or tetracycline sclerotherapy has been found safe and effective in the management of thyroid cysts. Pain and drunken feeling are side effects of ethanol sclerotherapy. Fearfully, you could be also sclerosing a hidden papillary carcinoma. The most definitive management of thyroid cysts is surgical excision. Thyroid lobectomy harboring the cyst should be performed to children demonstrating probable or proven cytologic malignant changes and those with recurrence of the cyst after serial aspiration and suppressive therapy. Other factors such as size (greater than 3 cm in diameter), history of neck irradiation or family thyroid cancer, and cervical lymphadenopathy should be given weight in favor of surgical resection.

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Cervical Clefts

Congenital clefts can rarely occur in the face or the neck of a child. Fascial cleft, also known as congenital macrostomia, is a transverse deformity developing from the first and second branchial arches. Cervical clefts are almost always midline in location. This rare developmental anomaly represents failure of the branchial arches to fuse in the midline and presents at birth with a ventral midline defect of the skin of the neck extending for a variable distance from the chin to the suprasternal notch. Most cases reported are white females. Inially the cleft is covered by an exudative thin desquamating epithelium which toughens and dries during the following weeks creating scarring and contracture. The covering epithelium lacks sweat glands, sebaceous glands or hair follicles. The cranial end of the cleft has a nipple-like protuberance while the caudal end presents as an opening to a sinus tract where mucoid secretions can be seen. The mucoid discharge is the product of ectopic salivary glands. Beneath the cleft there is a firm submucosal fibrous cord. Differential diagnosis includes branchial cleft anomaly, thyroglossal duct cysts (or fistula) and ectopic bronchogenic cysts. Occasionally, associated heart lesions have been described. Unlike thyroglossal duct cysts, midline cervical cleft has no anatomical association with the hyoid bone. In a few cases a bony prominence of the mandible is palpable and seen as a spur in x-ray films. The spur is due to traction of the fibrous cord on the bone. Management consists of complete excision of all pathologic tissue along with the underlying cord. The wound can be closed primarily using a z-plasty technique. Early surgery avoids neck contracture and deformity of the mandible.

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Eosinophilic Granuloma

Langerhans cell histiocytosis, also known as eosinophilic granuloma, is a localized benign tumor seen in bones, skull, ribs, spine, pelvis and scalp area. It is estimated that 7% of all scalp lesions in children are eosinophilic granulomas. Eosinophilic granuloma arises from an abnormal proliferation of histiocytes. Children develop the lesions during the first decade of life manifesting pain, tenderness and swelling of the affected areas. Males are affected twice as much as females. The clinical course for most patients is benign

depending on the location of the lesion. Simple X-ray of the lesion will show a lytic, well-defined “punched-out” lesion in bone with marginal reactive sclerosis. CT-Scan will describe the extent of the disease process. Biopsy is imperative to establish a histologic diagnosis. Management consists of observation alone, curettage, low-dose radiation therapy or intralesional injection of steroids.

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