Paediatric Head & Neck Conditions on a Page

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Framework for assessment
Midline vs lateral vs non-specific elsewhere
Infective/inflammatory vs congenital vs neoplastic
Mucosal vs cutaneous vs glands (thyroid, salivary glands)

Thyroglossal Duct Cyst
Second most common paeds neck mass.
Embry: 4th week thyroid – foramen caecum to low neck through fusion of hyoid body. Moves up with tongue protrusion. 60% close to hyoid, 25% superior, 15% mid-lower neck. US for mass & normal thyroid. (1% ectopic thy).
Sistrunk. 5% recurrence (70% if hyoid not excised), 1% malignant.

Dermoid cyst
25% of midline anomalies. Usually seen at birth or under 5.
Embryonic fusion lines. Ectoderm & mesoderm. US.
Excision.

Ranula: FOM, plunging, neck. Excision of ranula and SLG.

Thyroid
Hx: FHx, MEN, radiation.
Incidence 1-2%. Solitary thyroid nodule in kids higher risk malignancy than in adults.
Ix: US, TFT, thy antibodies, in MEN – calcitonin and RET proto-oncogene.
PTC: 12%, radiation is known Risk Fx
Follicular: 2%. 90% present with lymph nodes at dx, 10% w distant mets to lung.
Medullary: 5-10%. MEN 2A &2B, FMTC. Autosomal dominant. Prophylactic thyroidectomy.
Cowden's (au dom, hamartomas, breast, GI polyp)
Gardner's (au dom, GI polyps, osteoma, dermoid, retinal pigmentation)

Branchial cleft cyst/sinus/fistula.
Most common paediatric neck mass.
6 Branchial arches. The fifth degenerates.
First Arch (5-25% of BAA): Work 1 (more common, duplication of EAC, lateral to FN) & Work 2 (less common, variable course, canal/chonca to angle of mandible).
Second Arch (40-95% - most common): tonsil fossa – medial to post belly digastric – lat to CN9&12 – B/w ext & int carotids – neck ant to SCM. Rx: excision.
Third and Fourth Arch (2-8%): controversial derivation as may derive from thymopharyngeal duct. Piriform fossa to neck. Mostly left sided (90%), p/w recurrent neck abscesses. Rx: cautery, excision.
Branchio-oto-renal Syndrome.

Lymphadenopathy/Lymphadenitis/Abscess
EBV, CMV, HSV, Mumps, Bartonella, Toxo.
Lemierre, PFAPA, PANDAS.
MAC/MAIS: weeks-months, surgical excision if safe. I&D, curettage high recurrence. Long term Abx limited benefit.

Torticollis/SCM pseudotumour/fibromatosis colli
Rare. US, MRI. 70% resolution in 6m. Physio, excision.

Thymic cyst
Older child. Male, left neck.
Embry: 6th week, thymopharyngeal tract along tracheooesophageal groove.

Vascular anomalies				
Vascular tumors	Vascular malformations			
	Simple	Combined *	of major named vessels	associated with other anomalies
Benign Locally aggressive or borderline Malignant	Capillary malformations Lymphatic malformations Venous malformations Arteriovenous malformations* Arteriovenous fistula*	CVM, CLM LVM, CLVM CAVM* CLAVM* others	See details	See list

Haemangioma
Congenital haemangioma present at birth: RICH, NICH.
Infantile haemangioma no mass at birth.
Rapid growth 2-4 weeks, continues 4-6 months then plateau, involution from 12 months onwards.
Rx: steroids, propanolol, vincristine, interferon, laser (pulsed dye, CO2, KTP, YAG), surgery.
PHACES syndrome - MRI. Bearded distribution associated with subglottic haemangioma.
Kaposiform Haemangioendothelioma – Kassabach Merritt (consumptive thrombocytopenia, DIC, heart failure).

Lymphatic Malformation
50% at birth, 90% by 2. 75% in the neck. Microcystic (<2cm) vs macrocystic (>2cm). US, MRI. EXIT if indicated.
15% spontaneous regression.
Rx: sclerotherapy (doxycycline, bleomycin, ethanol, OK432), surgery.

Schwanommas, neurofibromas, paragangliomas
Pilomatrixomas – "rocks"
Lipoma or lipoblastoma.
Teratoma
1:40,000. <5% in H&N. All 3 germ layers. EXIT/CHAOS.

Salivary glands
Sialedenitis: Mumps, EBV, bacterial, mycobacterial, actinomycosis, sarcoidosis, catscratch.
Juvenile recurrent parotitis.
Sialolithiasis
Autoimmune: Sjogren's
Tumours: haemangioma, ductal cyst, pleo, mucoep, acinic, adenoid cystic
US, MRI, sialoendoscopy, parotidectomy.

Malignancy
5% of childhood malignancy is H&N primary.
<15% of all neck masses is malignant.
Lymphoma most common (50%), then rhabdomyosarcoma(20%).
Non-Hodgkin's Lymphoma: 7-11yo, 3:1 M:F. CHOP.
Hodgkin's Lymphoma: EBV, teens, chemo +- radioTx.
Rhabdomyosarcoma: bimodal 2-6 and 10-18. Chemorays +- surgery. Embryonal type (common in H&N), & alveolar type.
NPC: Rare. Chinese and South East Asians. Type I (keratinising), II (non-keratinising), III (undifferentiated, most common in paeds).
Neuroblastoma: neural crest progenitor of sympathetic nervous system. Surgery +- chemoradiation.