

Vesalius SCALpel™ : Head and neck tumors (see also: head and neck clinical folios)

Evaluation of neck masses

infectious/inflammatory processes should resolve within 6 weeks
most neck masses in young are benign, most in old malignant
most head and neck tumors easily diagnosed on clinical grounds
lateral: lymph nodes, inflammatory v malignant
 non-tender lateral mass of concern
malignant characteristics; short duration, rapid growth, hard, fixed, rubbery (lymphoma),
 solitary (40% malignant)
FNA diagnostic mode of choice, open Bx risks spill of tumor cells; 85% sensitive, 99%
 specific
vascular, neural, salivary, branchial arch etiologies
examine for source above neck

Congenital benign

thyroglossal duct cyst
 remnant of embryologic tract of thyroid descent from foramen cecum of tongue
 pre-op US to identify normal thyroid in neck v only thyroid in mass
 remove center of hyoid (Sistrunk procedure) to prevent recurrence from tract
 1% chance of malignancy (80% papillary thyroid)
Sturge-Weber: congenital vascular hamartoma
 initial low flow to hypertrophy, verruciform cutaneous deformity
 resection seldom useful: selective debulking for cosmesis or function
 intracranial vascular malformation may cause mental retardation, seizures
 lo flow, no indication for embolization or external carotid ligation
 associated blindness from glaucoma

Squamous cancer

mucous membranes upper aerodigestive tract (not lung)
 tongue cancer
 positive nodes decreases survival 50%
 8% synchronous tumor, 20% metachronous (lung, esophagus)
 selective neck dissection for clinically negative nodes, modified/radical for
 palpable nodes
 radiotherapy (65Gy) increases survival
 CT for non-resectable: cisplatin & 5FU
tobacco, alcohol strong etiologic factors; radiation and age
 smokeless tobacco concentration of toxins, hi risk ulcer to cancer progression
pharyngeal lesions present late
 assymetric tonsils common presentation of pharyngeal cancer
predictable spread, lymphatics
high likelihood (10-15%) subsequent primary, lifelong surveillance

diagnostic “Ts” symptoms: tympano (ear pain as presenting symptom), tongue, teeth, tonsil, throat, temporomandibular joint, torus palatinus

larynx:

glottic: uniquely few lymphatics

otalgia common

vocal cord: voice changes lead to early detection, Bx

radiosensitive, preferred Rx, voice results better

supraglottic: epiglottis, aryepiglottic folds, false vocal cords v subglottic

induction chemo for advanced H&N squam tumors 50% complete clinical response

2/3 of those complete pathologic response = survival advantage

Lymph node staging

N1 single ipsilateral < 3cm

N2a “ 3-6cm

N2b multiple ipsilateral < 6cm

N2c bilateral or contralateral < 6cm

N3 > 6cm

30-50% 5y regardless of staging & Rx

N1-2a neck dissection or RT alone (selective)

extracapsular add RT

elective chemo for distant mets or inoperable, questionable benefit

Salivary gland

2% of head and neck neoplasms

malignancy risk inversely related to size, major glands more benign

parotid 80% benign, submandibular 50%, sublingual, minor 20%

most malignant salivary gland tumors occur in parotid (because 75% of all salivary tumors are in the parotid, but most parotid tumors are benign)

incidence: 75% parotid, 10% submandibular

pleomorphic adenoma (benign mixed tumor) and Warthins (monomorphic adenoma/papillary cystadenoma lymphomatosum)

pleo and Warthins most common benign

pleomorphic most common (80% of benign)

Warthins (11% of benign)

parotid only

always benign

2% recurrence

5:1 M:F (other benign M=F)

10% bilateral or multifocal

smokers 8X risk

primary malignant tumors: acinic, mucoepidermoid, adeno, malignant mixed, adenoid cystic, squamous

malignant mucoepidermoid (15% of all salivary gland tumors)

lo grade: focal invasion, 15% recurrence, rare mets, 90% 5y survival

hi grade: difficult excision, 30% recurrence, 30% mets, 50% 5y
 few respond to radiation, surgery an integral part of management
 primary parotid malignancy:
 85% of salivary neoplasms occur in parotid
 most mucoepidermoid carcinoma
 FNA Bx
 if FNA does not return malignancy, sacrifice of VII not warranted on suspicion
 facial N identified by tympanomastoid suture landmark, not by nerve stimulator
 gross facial nerve involvement do temporal bone resection, proximal nerve division
 for negative margin
 facial nerve paralysis indicates highly malignant tumor
 12% parotid cancers present with facial nerve paralysis
 usually hi grade mucoepidermoid (25% occult nodal mets @ Dx)
 or adenoid cystic
 < 3y survival from onset of paralysis
 hi grade, extraglandular spread, perineural invasion, regional mets give post-op RT
 metastases to parotid
 parotid forms around lymph nodes
 squamous Ca from scalp, temple & ear metastasize to parotid
 melanoma of orbit commonly metastasizes to parotid
 facial nerve injury risk with parotidectomy
 Frey's syndrome (gustatory sweating): auriculotemporal branches grow into skin after
 parotidectomy, parasympathetic stimulation sweat glands
 antiperspirants help
 submandibular
 adenoid cystic most common (45%) malignancy
 neoadjuvant radiotherapy
 supraomohyoid neck dissection

Surgical treatment

surgery for all benign lesions, most malignant
 radical neck dissection includes internal jugular vein, sternocleidomastoid, spinal accessory
 N (XI)
 modified neck dissection spares one or more
 functional neck dissection spares all 3
 selective neck dissection: focused regional node dissection
 marginal mandibular branch of VII innervates depressor of angle of mouth
 injury results in droop of contralateral angle of mouth

Unknown primary

panendoscopy (bronchoscopy, rigid cervical esophagoscopy, direct laryngoscopy,
 (nasopharyngeal) + physical exam (specific drainage patterns) identifies 65%
 CT (20% accuracy), CT/PET fusion imaging identifies 8-42%, resolution 5-10mm
 tonsils most common source (82%) for unknown primary; base of tongue

if all diagnostic studies negative, do bilateral tonsilectomy, 25% will be positive
30-50% 5y regardless of staging and Rx

References:

Ferlito A et al. Neck dissection in the new era. JACS, 204(3), March '07: 466-468.