

REVIEW CLINICAL ANATOMY: NASAL, ORAL CAVITIES, PAROTID, INDEPENDENT LEARNING 2019

Nasal Cavity

Fracture of nose - blow to nose, fracture cribriform plate of ethmoid - leak CSF

Innervation - Nasal Cavity sensory V1 and V2; mucous gland VII (Pterygopalatine ganglion); Palate V2 Only.

Epistaxis - extensive arterial anastomoses in nose (Sphenopalatine, Ant. Ethmoidal, Facial arteries) - blood spurts

Maxillary sinus infection - nerves to teeth (ex. Anterior and Posterior Superior Alveolar nerves) course in wall of sinus - sinus infection feels like toothache

Tonsillitis - Palatine tonsils (between Palatoglossal and Palatopharyngeal arches; muscles of same name underlie arches); removal of tonsil can damage 1) Tonsillar artery (from Facial A.), extensive bleeding , 2) IX - Glossopharyngeal nerve

Swallowing - Voluntary - raise floor of mouth, pull tongue back - Mylohyoid, Styloglossus

Involuntary - Raise (Lev. Palati) and Tense (Tensor Palati) palate; pull pharynx laterally (Stylopharyngeus); then Pharyngeal constrictors down tube; (Note: override involuntary by talking at lunch)

[Equalize pressure in middle ear - Lev. and Tensor Palati take origin from Auditory tube; open auditory tube when swallow, ears 'pop']

Development

Ant. Cleft palate (ant. to incisive foramen, also called Primary palate) - failure fusion medial nasal and maxillary processes; same as **Cleft lip** (cleft at philtrum)

Post. Cleft palate (post. to incisive foramen, also called Secondary palate) - failure fusion maxillary processes both sides

Parotid

Jaw locked open - jaw lock due to head of mandibular condyle and articular disc stuck on articular eminence (ant to TMJ). Note; Opening mouth first rotate TMJ (lower compartment) then slide (upper compartment); Sliding due to Lateral Pterygoid (only muscle of mastication that opens, protrudes);(Temporalis, Masseter, Med. Pterygoid - close; Temporalis retrudes) -

Jaw jerk reflex - stretch reflex of closer muscles (Mass., Temp. Med Pterygoid) - V in, V out

Swelling of Parotid Gland - Parotid Tumor, Mumps; can compress 1) Auriculotemporal nerve (V3),2) VII; symptoms **ear ache** (also in mumps), facial paralysis (tumor).

Damage V3 - When open mouth, **mandible deviates toward side of lesion (unopposed action of Lateral Pterygoid muscle)**

Infection Spread in Pterygoid venous plexus - drains branches of Maxillary vein - anastomoses with Cavernous sinus (Meningeal veins) + infection can spread from teeth , nasal cavity to Cav. Sinus (similar to Facial Vein)

Oral Cavity

Ludwig's Angina - infection of mandibular (lower molar tooth) spreads to submandibular space (below mylohyoid) and sublingual space (above mylohyoid) - can **obstruct airway**

Damage Hypoglossal Nerve XII - paralyze all tongue muscles on one side - **LMN** - muscles atrophy. protruded tongue deviates **toward side of lesion** (pushed by intact Genioglossus muscle) - **UMN** - no atrophy, tongue deviates **away** from side of cortical stroke (UMN only contralateral to Genioglossus, also only contralateral VII lower face, XI Trapezius).

Cancer of Tongue - lesion can **spread to opposite side** due to lymph vessels crossing midline

Loss of taste - Chorda tympani (ant. 2/3 tongue) - 1) damage tympanic membrane (or al Petrotympanic fissure; also lose parasymp. Submand, Subling. Saliv.), 2) Note: if sever Lingual nerve in floor of mouth (after hitchhiking fibers from Chorda Tymp. join), also lose touch ant. 2/3 of tongue and taste. .

Independent Learning: Circulation and Glossopharyngeal Nerve

Radicular arteries supply spinal cord - Most blood below cervical region from radicular arteries (arteries enter by Intervertebral Foramina) - Great Radicular Artery of Ademkewicz - enter T9 - damage in heart surgery or Aortic aneurysm - get Ant Spinal Artery syndrome - paraplegia, bilateral loss pain and temperature, sparing touch and vibration.

Damage Carotid Sinus, Carotid body in Carotid Endarterectomy - remove plaque from Carotid bifurcation; damage Carotid Sinus (blood pressure), Carotid body (blood chemoreception); both innervated CNIX Glossopharyngeal.

Spread of Cancer to Vertebrae via Intervertebral veins - Veins of spinal cord have no valves; Venous plexuses (Internal inside canal, External outside vertebrae) anastomose with Intervertebral veins - Cancers from pelvis (uterine, prostatic) can spread to vertebrae, spinal cord via Intervertebral veins.