Clinical anatomy_Dentistry

1a. MANDIBLE

- Anatomy – repetition
- Changes during life
- Alveolar process, alveolus (compact and spongy bone, bundle bone, resorption, reconstruction)
- Lingual foramen
- Mandibular canal – topography, variations
- Mental canal and foramen
- Incisive canal
- Orifices accessoria
- Dentoalveolar topography (the transverse assymetry of alveolus; the rate of the compact and spongy bone; the relationship the root the lower jaw to neighbouring structures)
- Nerve and blood supply – repetition

1b. MAXILLA

- Anatomy – repetition
- Clinical notes – accessory maxillary ostia, maxillary sinus floor, maxillary sinus septa, Caldwell-Luc surgery, tuber maxillae, infraorbital canal, palatum (zones of mucous membrane; A and H line)
- Dentoalveolar topography – the transverse assymetry of alveolus; the rate of the compact and spongy bone; the relationship the root the lower jaw to neighbouring structures
- Nerve and blood supply (variation) – repetition

2a. TEMPOROMANDIBULAR JOINT

- Temporomandibular joint – generaly
- Articular surfaces (articular fossa, articular eminence, postglenoid process, mandibular fossa) – description of each structure
- Joint capsule (shape, attachment, layers, solidity) – description
- Disc (shape, localization, function, structure, insertion, division on the parts, division of the posterior part, innervation, physiologic position, injury)
- Zenker retroauricular pad (localization, structure, function on the opening and closing of the mouth)

- Ligaments of the TMJ – localization, description, function
  - articular (medial, lateral)
  - extraarticular (stylomandibular, sphenomandibular)
  - additional (discomalleolar, Tanaka´s)
- Movements of the TMJ – detailed explanation
- Hinge and gliding movement
  - depression
  - elevation
  - protrusion
  - retrusion
  - laterotrusion
- Hypomobility of the TMJ (ankylosis, pseudoankylosis) – explanation
- Hypermobility of the TMJ (subluxation, luxation) – explanation
- Innervation of the TMJ (branches of the mandibular nerve) – description
- Arterial supply of the TMJ – description
- Examination of the TMJ (palpation, compression, imaging procedure: x ray, CT, MRi, arthroscopy) – description
- Topographical relationship of the TMJ – description

2b. MUSCLES OF MASTICATION

- Definition
- Masseter muscle: parts (superficial, deep) – origo and insertion, course of muscle´s fibres, function, architecture, fascia, examination
- Temporal muscle: origo, insertion, parts, course of muscle´s fibres, funtion, architecture, fascia, examination
- Lateral pterygoid muscle: upper and lower heads - origo, insertion, course of muscle´s fibres, function, architecture, fascia, examination
- Medial pterygoid muscle: origo (anterior and posterior parts), insertion, course of muscle´s fibres, architecture, fascia, examination

3. BASIC OF CRANIOMETRY AND CEPHALOMETRY

- Craniometry – definition, application
- Cephalometry – definition, application

- Craniometric points – localization
  - unpaired: nasion, glabella, bregma, akanthion, lambda, orale, basion, opisthocranion, staphylion
  - binate: pteryon, porion, euryon, zygion, gonion, endomolare
- Frankfort horizontal plane – definition
- Maxillary plane – definition; mandibular plane – definition
- Dimensions between the craniometric points (size of the skull, face, palatum) – how are measurmened
- Indexes of the skull (cephalic, facial and palatomaxillary) – how are counted and what indicate
- Cephalometric points – localization:

  sella, nasion, orbitale, porion, anterior nasal spine, posterior nasal spine, gonion, menton, A point, B point
- Cephalometric lines (S-N, N-A, N-B) – generally; what does it indicate
- Cephalometric angles (SNA, SNB, ANB) – generally; what does it indicate
- Telerentgen – recognize, when is used

4a. FUNCTIONAL STRUCTURE OF THE SKULL

- Thickened parts of the skull (base): sagittal line, ventral and dorsal lateral line – localization
- Thinner parts of the skull (base): articular fossa, cribriform plate, foramina, canals and fissures, anterior, medial and posterior cranial fossa – localization
- Thickened parts of the skull (calvaria): parietal tuber, mastoid process, external and internal occipital protuberantia, temporal line, margin of sulcus sinus sagitalis sup. et transversus – localization
- Facial buttresses system – definition, description, significance, drawing
  - vertical buttress: nasomaxillary, zygomaticomaxillary, pterygomaxillary
  - horizontal buttress: glabella, orbital rims, zygomatic processes, maxillary palate
  - free places between the framework: orbit, maxillary sinus, nasal cavity
- Transmission of the masticatory forces to the skull: trajectory lines, vertical buttresses system – explaining, drawing

4b. FRACTURES OF THE SKULL

Neurocranial fractures (linear, depressed, basilar) – generally, fracture lines

Symptoms and complication of the cranial fractures (cranial nerve lesion, otorrhea, rhinorrhea, Battle´s sign, Raccoon eyes, intracranial hemorrhage, cranial oedema) – basic description

Craniofacial fractures - detailed description:

- Mandible
  - fractures of the body
  - angle fractures
  - symphyseal and parasymphyseal fractures
  - condylar process fractures
- Lower midface (Le Fort I)
- Upper midface
  - naso-orbitoehmoid
  - zygomaticomaxillary complex
  - orbital
  - Le Fort II
  - Le Fort III
- Craniobasal-facial

5. RADIOGRAPHY OF THE HEAD

- Types of imaging methods (x ray, magnetic resonance, ultrasonography)
- Summation imaging x storeyed imaging, differences
- Conventional and digital radiography, differences, advantages
- Intraoral radiography (bisecting, paralleling and bitewing technique, occlusal radiograph)
- Full mouth x ray
- Reading of x ray
- Extraoral radiography (ortopantomography, cephalometry, conventional – lateral, postero-anterior, sumbentovertical, Hirtz, Waters, Clementschitsch)
- Special radiography (Stenvers and Schullers projection, Albert-Schonberg view)
- Contrast imaging (sialography, arthrography, antrography, cystography, fistulography, angiography)
- Computerized tomography – generally

- Magnetic resonance imaging – generally
- Ultrasonography – generally

6. ODONTOGENIC INFECTION PATHWAY

For understanding of this chapter it is necessary repeat following topographic boundaries of these spaces: temporal; infratemporal; sublingual; submental; submandibular; pterygomandibular; parapharyngeal

- Odontogenic infection – definition, causations, influence of the degree of infection
- Types of odontogenic infections (localized, diffused) – differences, barriers of spreading
- General signs of infection (rubor, tumor, calor, dolor, functio laesa) general description, reasons
- The possibility of spreading of dental infection (per continuitatem, by vascular, by lymphatic) – explanation
- Abscess – causal tooth, localization, barriers of spreading, spreading, risk
  - vestibular; palatal
- Diffused infection – causal tooth, localization, barriers of spreading, spreading, risk (buccal space; temporal space; infratemporal space; infraorbital space; submental space; submandibular space; sublingual space (Ludvig´s angine); masseteric space; pterygomandibular space; lateral pharyngeal space; maxillary sinus
- Infection in neck space (pretracheal, prevertebral, visceral neck spaces) – description
  - abscess: subcutaneous, suprasternal, pretracheal, parapharyngeal, retropharyngeal) – explanation of origin, spreading
- Bacteriemia – explanation
- Infected thrombus – explanation
- Ventral and dorsal pathway of spreading infection in venous system of the head – description

7. DENTAL ANESTHESIA

For understanding of this chapter it is necessary repeat trigeminal nerve. Student can draw areas of innervation and anesthetic into the pictures.

- Pain – definition, causation
- Local anestetic – definition, how they act on the peripheral nerve
- Vasoconstrictors – definition, reason for its additing, advantages

- Complication of dental anesthesia - description
  - nerve injury (paresthesia, hyperesthesia, dysesthesia, dysgeusia, xerostomia, ocular and extraocular symptoms
  - bleeding
  - intraglandular injection
  - trauma of muscle
  - systematic complication
- Types of local anesthesia - basic description
- Local infiltration – technique, localisation in upper and lower jaw
- Nerve block – technique, localisation, description
  - PSA, MSA, ASA, infraorbital, great palatine, nasopalatine, alveolar inferior (Haldstead, Gow- Gates, Akinosi), mental, lingual, buccal
- Alternative delivery methods (intraosseous, intraligamentary and intrapulpar injection, topical anesthetic patches - description