Distribution of Questions (110)
Oral Pathology 2006 Final Examination (IV)

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Langerhans cell — Severe bone loss (teeth floating in air), eosinophils, Birbeck bodies in Langerhans cell
Leukemia — chloroma (tissue swelling from leukemic cell infiltration), ULCERS, petechiae,
Pyogenic granuloma — Not a true granuloma. Tissue response to Trauma, hormones (PREGNANCY)

Dermatologic Disease (28q)

Genodrematoses (6q)

— **Ectodermal Dysplasia** - 2 or more ectodermal structures fail to develop (ex. skin, hair, nails, teeth, sweet & salivary g
X linked (male predominant) signs include ~~xerostomia~~ & osteomia, fine hair, **hypodontia**, oligodontia, crown may be tapered, pointed and smaller than norma)

— **White sponge Nevus** also called Cannons Dx & Familial White Folded Dysplasia present @ brith
appears: symmetric, thick white, corrugated/velvety plaque affects: buccal mucosa also may involve tongue, alveolar ridge, floor, nasal, esophageal, anogenital normally asymtamatic
Histo - hyperparakeratosis & acanthosis w/ eosinophilic condensations of keratin tonofilaments

— **Hereditary Benign Intraepithelial Dyskeratosis** (HBID) also called Witkop-Von Sallmann Syndrome
all M family history
Rare seen mainly in tri racial isolates (inbread idahoans, Canadian imagrants, and yuppie private school bo
appears childhood sings oral & conjunctival lesions (similar to white sponge) thic, opaque, gelatinous plaque in conjunctiva & sometimes cornia. Eyes may itch tear/pt. can have photophobia
more domanant in sping regress in fall, blindness from vascularity Histo **cell w/in a cell**

— **Darier's Dx** also called keratosis Follicularis, Dyskeratosis Follicularis, Darier-White Dx.
auto dom. problem between surface squamous epithelial cells / numerous erythematous, pruritic papules on trunk & scalp (2nd decade) lesions are rough & degradation keratin gives a foul odor
Palm & heel pits / nails have lines, ridges, or painful splits, 15-50% have oral lesions which are white, flat-topped (like Gibb) papules, & if clustered then cobblestone-ish on hard palet & alveolar mucosa
parotid swelling in some pt. Hist rete pegs are long, narrow, & test tube shaped.

— **Peutz-Jeghers Syndrome**
Auto Dom w/ 35% new mutation. Freckle-like lesions of hands, perioral, & perinasal skin & oral mucosa Pt.s have Intestinal Polyposis → starts in early child hood %50 have are hamartomas in ileum & jejunum
extremities involved color not effected by sun / also can get intussusception (telescoping) or bowel obstruction 2-3% get GI adenocarcinoma although polyps are not considered pernalignant / oral lessions 1-4 mm blue-gray macules on labial/buccal mucosa and tongue in 90% of pts

— **Hereditary Hemorrhagic Telangiectasia (HHT)** also call Osler-Weber-Rendu syndrom or KWC Hypowinkyism
Auto Dom mucocutaneous disorder, numerous vascular problems like vascular harmartomas
Initially Diagnosed because epistaxis on exam many red papules (1-2mm) are seen on nasal/oraphrayngeal mucosa
The papules are small collections of capisries (telengiectasias) that blanch seen commonly on lips tongue & buccal m.
Also seen on hands, feet, GI & UG & conjuntiva. GI telengiectastas have a tendency to rupture and Bleed / A-V fistulas develop in liver, lungs, brain. Crest similar but has autoantibodies
Tx electro or cryo surgery, dermoplasty, Estogen, Iron replacment for GI bleeders

— **Ehlers-Danlos Synd.**
10 disorders of collagen formation - hypermobility of joints, easily bruised, elastic skin
80% type I (severe) or type II (mild) both auto dom & have hyperelastic & skin fragility & scarring
type III same but no scarring / type IV & VII less type III collagen / *50% have colon sing
(touch nose w/ tounge)

— **Tuberous Sclerosis**
Seizures, retardation, angiofibroma of skin / Due to Auto Dom. w/ 50% new mutation
facial angiofibromas (adenoma sebaceum) - smooth papules mainly in nasiolabial fold / (ungual fibromas) around nails, shagreen patches (CT hamartoma) on trunk, ash-leaf (hypopigmented area) seen w/ woody lamp

- Epidermolysis Bullosa

blistering mucocutaneous disease (detachment of epithelial cells) 3 main types
① Simple = mild form → ② Junctional = skin sloughs off during birth through vagina baby dies → ③ ** Dystrophic = oral lesions, dental abnormalities (anodontia, enamel hypoplasia neonatal teeth, & caries) / Auto dom. dystrophic form not life threating but disfiguring = vesicles in low grade trauma areas (knees knuckles) they pop leaving ulcers then scares
Resisive dystrophic form more debabilitating. vesicle in minor trauma w/ infection scares can fuse pt's fingers Immunohistochemisty helps diagnose
Dytrophic form predispose Pts to squamous cell carcinoma (Be gental to these Pt.s)

Autoimmune (11q's)

— Pemphigus P. vulgaris (most common), P. vegetans, P. erythematosus, & P. foliaceaus
T* oral lesions more common

P. vulgaris if untreated can kill, * oral lesions 1st SIGN ("1st to show & last to go" T**) results from autoantibody against epidermal cells glycoproteins prot of DESMOSOMES
Age 50 / Pt.s have pain in palate, labial/buccal mucosa, ventral tongue & gingiva are involved can get thin walled oral vesicles that reputure quickly - Positive Nikolsky Sigh
Take biopsy from parilessional tissue / epithilium sloughs off leaveing basels cell described as "Rows of Tombstones" / Acantholysis = seperation of epithial cells
Intraepithelial Separation just above basal cell layer
T* Tzanck cells loose rounded cells epi. cells (seen in Herpes also)
T* Immunofluorecents Helps diagnose / Steriod therapy ↓'s to morbidity

— Cicatrical Pemphigoid also called T* Benign mucos membrain pemphigoid
chronic blistering mucocutaneus disease auto immune looks like pemigous
T* Cicatrical means scar T* it attacts basement membranes age 60 Primary Mucosal lesions
start as vesicle then rupure & leave large ulsers can last for wks/mos.
Scar in eyes
T* Perio calls this Desquamitive Gingivitus T* Eyes can be involved you get
Subepithelial clefting
T* Symblepharons (adhesions), entropion (scaring trums eyelids in), trichiasis (eyelash rub corneal eye are dry cause closed lacramil ducts
Perilession tissue shows subepithelial clefting / immunofloresens shows linear band @ basement membrain differs from linear IgA disease cause IgG & C3 are primary immune deposit
send to opinthalmologist can use steriods

→ Erythema Multiform (3q)
vesiculobullous, ulcerative disease w/ unknow cause 50% preceeded by other infections like Herpes Simplex or Mycoplasma pneumoniae
acute onset ranging from ulceration of mouth to sloughing off of all skin (toxic necrolysis)
Age 20-30 sex Male you get fever, headache, cough, & malaise (prodromal)

- Many forms of skin lesions. Early- Flat, round, dark red → evolve into bullae w/ necrotic center "TARGET LESIONS" - concentric erythematous Rings
- oral lesions - start as erythematous patches, become necrotic, form ulcer

E. M. MAJOR (Stevens-Johnson syndrome) - more severe, Drug-Triggered
↳ Has to have ocular + Genital lesions w/ oral + skin lesions
↳ These ocular lesions lead to symblepharon

TOXIC EPIDERMAL NECROLYSIS - most severe form. Triggered by drug. diffuse sloughing of skin + mucosa
- skin heals in 2-4 wks if they survive, may have permanent ocular damage

- Histo of E.M - Subepithelial Vesiculation w/ Necrotic Basal cells
  - Inflammatory Infiltrate w/ perivascular orientation → psoriasis also
- Tx: corticosteroids

ERYTHEMA MIGRANS (geographic Tongue)

- Common benign condition. F 2:1.
- A type of hypersensitivity RXN or hormonal Factors.
- White lesions w/ atrophic Red centers. Red from Atrophy of filiform papillae.
- Histo: Collections of neutrophils (MUNRO ABCESSES) seen in Epithelium
  - Resembles Psoriasis

REITER'S SYNDROME - urethritis, arthritis, conjunctivitis (can't pee, see or climb a tree)

- Young Males. Get it after dysentery or venereal disease
- Oral lesions = painless erythematous papules or ulcers, geographic tongue
- Skin lesions - erythematous erosions w/ scalloped whitish boundary.
- Histo: Similar to psoriasis. Microabcesses in superficial epith., hyperparakeratosis + elongation of Rete

LICHEN PLANUS: Immune-mediated, related to stress?

- Some drugs can produce similar lesions (Lichenoid mucositis)
- Pruritic Purple POLYGONAL PAPULES w/ WICKHAM'S STRIAE (fine white network of lines)
  2 oral forms: Reticular: Buccal mucosa. INTERLACING STRIAE. Asymptomatic.
  EROSIVE: Gingiva. Radiating striae. Symptomatic. erythematous w/ central areas of ulceration. Produces desquamative Gingivitis.
- HISTO: Ortho/Parakeratosis. SAW-TOOTH Rete Ridges. Band of T-lymphocytes adjacent to epith.
- Can diagnose on just clinical findings

PSORIASIS: proliferation of cutaneous keratinocytes. Well-demarcated erythematous plaques with Silvery Scale.

- Erythema Migrans is possibly intraoral psoriasis (both have Munro Abscesses)
- HISTO: Surface has thick Parakeratin. MUNRO ABSCESSES seen - perivascular inflammatory cell infiltrate. → Erythema multiform also
- Tx - Steroids, Keratolytic agents, UV light.

LUPUS ERYTHEMATOSUS: SLE + CCLE

① SLE: Multisystem disease related to B-cell activity + abnormal T-cell function Cause: unknown
- Early Stages - Vague symptoms - fever, malaise, wt. loss. Common finding: Butterfly Rash, kidney Problems, Libman-Sacks endocarditis (vegetation deposition of immune complex)
- ORAL: Lichenoid appearance but varies. Ulceration, pain, hyperkeratosis.

② Chronic Cutaneous L.E. → Primarily affects Skin + oral mucosa.
- few signs of SLE, Skin lesions called discoid Lupus Erythematosus. Early red patches - worse in sun atrophy, scarring + hyperpigmentation.

- HISTO of L.E.: oral lesions: hyperkeratosis, altering atrophy + thickening of Spinous layer. basal layer degeneration
- Pt's should avoid UV light. Give immunosuppressive drugs
- Renal failure common cause of death.

SYSTEMIC SCLEROSIS (scleroderma). Dense Collagen deposits

- 1st Sign: Raynovd's phenomenon. Also get resorption of finger tips. This w/ flexion contractions produces short CLAW-LIKE fingers.
- Skin = hard w/ smooth texture. MASK face, Mouse Face (microstomia)
- Fibrosis of organs = organ failure
- ORA~ Microstomia - purse string appearance. gingival recession, loss of tongue mobility widening of PDL.
- Localized scleroderma - "Coup de Sabre" on a patch of skin.
- Histo: diffuse collagen deposition - replacing + destroying normal tissue.
- Microstomia can cause severe oral health problems.

CREST Syndrome – mild variant of Systemic Sclerosis

Calcinosis Cutis - calcifications in Skin
Raynoud Phenomenon
Esophageal dysfunction
Sclerodactyly - stiff claw-like flecture of fingers.
Telangiectasias – on facial skin + lips

Diagnosis: anti centromere Antibodies.

BONE PATHOLOGY

OSTEOGENESIS IMPERFECTA – Impaired Collagen Maturation

- Most common Heritable bone disease.
- Bone fragility, Blue Sclera, altered teeth, hearing loss, bone + Spine deformity, Joint hyperextensibility.
- ORAL: Dentinogenesis Imperfecta, Maxillary Hypoplasia w/ Class III. Radiograph similar to Florid cemento-osseous dysplasia.

Type I – common + mild form. bone fragility 2/3 die in childhood Type II - Most severe form (90% stillborn) Type III - Mod. - Severe Type IV - mild - mod. bone fragility

OSTEOPETROSIS – Increased Bone Density from non-functioning Osteoclasts = no remodelling.

- Bone growth without resorption → Thickened Bone.

INFANTILE Form (malignant Form): Marrow failure, Fracture, Cranial Nerve Compressions. (with fracture).
- Kidney, Liver Growth, Infections, Osteomyelitis
- Delayed tooth eruption, extraction osteomyelitis

Adult (Benign) Form → limited to Axial Skeleton, rare marrow failure, sometimes Bone Pain
→ Cranial Nerve Compression (w/ or w/out Fracture)

- Tx -

CLEIDOCRANIAL DYSPLASIA → defect in Osteoblast differentiation + Bone Formation.

- Malformed / absent Clavicles, Short, large head w/ Bossing, Hypertelorism, depressed Bridge of nose.
- Persistent open Fontanels + Cranial Sutures
- Dental: high palate (no cleft), deciduous retention / delayed perm. eruption, numerous unerupted teeth.
  - Narrow Ramus, pointed coronoid Processes, thin zygomatic arch, prognathism.

FOCAL OSTEOPOROTIC MARROW DEFECT – Non-Pathologic area of marrow big enough to be a radiolucency.

- Ill defined lucency a few cm in size. 75% are Adult Females, Post. Mandible

IDIOPATHIC OSTEOSCLEROSIS – Focal increased Radiodensity usually around Roots of teeth.

- ~~AKA Dense Bone Islands~~ - Age: 20's - well defined Rounded mass 3–20 mm.
- Mandibular Molar/PM area. Must rule out Condensing Osteitis (pulp disease).
- No treatment, biopsy if expansion present.

MASSIVE OSTEOLYSIS – Rare Spontaneous destruction of bone. Vanishing bone disease

Young. Pelvis, humerus, Axial skeleton., Maxillofacial ~~bone~~ involvement
- mobile teeth, pain, malocclusion, Midline deviation, pathologic Fracture, Sleep apnea.
- loss of Lamina dura

PAGET'S DISEASE (OSTEITIS DEFORMANS)

- Abnormal anarchic Resorption + deposition.
- Common age 40 Male white.
- usually Polyostotic. Leg Bowing, Fracture, bone + joint pain, pressure neuropathy.
- progressive alveolar ridge expansion → Teeth spacing, dentures don't fit.
- Patchy sclerotic areas w/ Cotton wool Appearance. (radiographic), Mosaic Pattern (microscopic), marrow is replaced by vascular Fibrous CT
- elevated Alkaline Phosphatase, elevated urinary hydroxyproline levels
- Risk of osteosarcoma

Central Giant Cell Granuloma – Not a real granuloma, Non-neoplastic, UNIQUE TO JAW

- Anterior Mandible
- Painless expansion
- Many Multinucleated Giant cells in stroma of spindle-shaped mesenchymal cells.
- usually non-aggressive. – w/ lots of vessels + hemorrhage.
- Agressive ones = pain, rapid growth, cortical perforation, root resorption.
- uni locular or M.L. 5mm – 10 cm+
- Indistinguishable from Hyperparathyroid, Cherubism, aneurysmal bone cyst – must do differential diagnosis.

Giant Cell Tumor – a true neoplasm, found in long Bones

- Can't distinguish from CGCG histologically but behavior is diff - 10% metastasis and higher recurrence.

Cherubism – Happens in kids, stabilizes at puberty then slowly regresses. This is a developmental Jaw disease.

- Rounded face, Eyes pointed upwards
- posterior Mandible = symmetrical Multilocular expansion
- Maxilary – in tuberosity areas.
- The bone widens + distorts alveolar ridges = Tooth displacement, altered eruption
- Almost always in jaws but sometimes in clavicle, ribs + humerous
- Microscopically similar to CGCG. LONGSTANDING LESIONS BECOME MORE FIBROUS w/ less Giant Cells.

Simple Bone Cyst – a benign cavity in bone w/ No epithelial Lining = a pseudocyst

- Mostly long Bones, Sometimes Mandible – PM/Molar Region – well delineated RL, Scalloped upward between Roots of Teeth (UL)
- Do a Pulp Test, can be associated w/ cemento-osseous dysplasia.
  → The tooth is vital.

Aneurysmal Bone Cyst – Non-Neoplastic but Mimics neoplasm, NOT A TRUE CYST

- Cause: Trauma, Vascular malformation – disrupts the bone hemodynamics.
- Tons of blood filled spaces surrounded by fibrous CT and reactive Bone. Blood-soaked Sponge.
- Usually in long Bone 2% in Jaw – post. Mand.
- Rapid swelling / Pain. UL or ML RL w/ cortical expansion, Ballooning Bone contour (blow-out) Sometimes has R.O. foci or small Trabeculae.

Fibro-Osseous Lesions – have Fibrous Tissue + Osseous (bone/cementum) tissue.

① **Fibrous Dysplasia** → Normal bone Replaced by excessive fibrous CT intermixed w/ irregular bone Trabeculae. (The Normal bone is regressing back to Woven bone stage)

- MONOSTOTIC, Jaws common (MAXILLA > mand)
- Ground Glass appearance w/ expansion, Jaws LONG Bones are RL (microscopically the same though).
- Narrow PDL, Lamina dura Indistinct, I.A. Nerve displaced Superiorly.

Polyostotic (PFD) → Jaffe-Lichtenstein = PFD w/ Cafe-o-Lait
→ McCune Albright = PFD, Cafe-o-Lait, and Endocrinopathies

- Histo: CHINESE CHARACTERS – woven trabeculae in fibrous stroma
- Can get Osteosarcoma

② Cemento-osseous Dysplasias ← Focal, Periapical, Florid. – only in jaw (cemento), Non-neoplastic – ↑ in R.O. over Time

– has Histo of: Woven Bone, Lamellar bone + cementum-like particles Mixed in cellular CT.

) **Focal** – only one lesion. young white Females. Less than 1.5cm. Post Mand.
- if R.O. – has a thin R.L. rim.
- gritty tissue not easily separated from bone.

b) Periapical - Black middle aged Females, anterior Mand. *Vital teeth (pulp test). < 1cm
- PDL Intact - opacity not fused to tooth.

c) FLORID - Black mid-age Females - MULTIFOCAL but not limited to ant. mand.
- RL or RO. Sometimes assoc. w/ simple Bone Cyst

(3) OSSIFYING FIBROMA - True Neoplasm - Mix of Fibrous Tissue + bony trabeculae, or cementum spherules
- Female 30 PM/M region Mand. Usually single lesions
- Large lesions produce painless swelling. + downward bow of inferior mandible.
- Well defined RL w/ sclerotic border that has varying amounts of Radiopacity.

Juvenile Ossifying Fibroma - More aggressive, found in Maxilla
- Maxilla impinges on Sinuses, orbit, Nose + cranium.
- Cellular Fibrous tissue W/ strands of osteoid.
- Growth variable - faster in younger kids

OSTEOMA - Benign tumor of Mature bone restricted to Craniofacial skeleton.
- Periosteal = slow growing mass Endosteal = asymptomatic or slow enlargement.
- On condyle - deviates midline - lobular mass
- Radiograph: Circumscribed Sclerotic Mass

GARDNER SYNDROME - Osteomas, Supernumerary teeth, epidermoid cysts, Colon Polyps / colon cancer.

OSTEOBLASTOMA + OSTEOID OSTEOMA - Microscopically Identical bone Neoplasms

Osteoblastoma - in Vertebrae, Sacrum, Calvarium, long bones, digits, - no Pain
Osteoid Osteoma - Femur, tibia + Phalanges. - opaque center RL edge, Pain.

CEMENTOBLASTOMA → Same as osteoblastoma but attached to tooth.
- Post. Mand - 1st Molar 50%. Children / Young Adults.
- opaque mass fused to Root w/ RL Rim
- Extract mass, Root amputation + endo

CHONDROMA - Benign Neoplasm of hyaline Cartilage. Uncommon in Jaw - usually in fingers + toes
- Multiple chondromas in Ollier dx or Maffucci Syndrome
- RL w/ central opacity.

CHONDROMYXOID FIBROMA - Benign Neoplasm at metaphysis of Long Bones - Jaw lesions Rare.
- Circumscribed RL w/ sclerotic margin 1-6 cm. Can confuse w/ Chondrosarcoma Histologically.

SYNOVIAL CHONDROMATOSIS - non-neoplastic arthropathy - Cartilaginous Nodules form within Synovial membrane
- Usually in one large Joint - knee elbo hip shoulder. (condyle is Rare)
- Radiographically - "Loose Bodies" in joint - Round + irregular Radiopacities, Widened joint space.

Desmoplastic FIBROMA - Bone Tumor of Fibroblast tissue.
- Metaphysial region of humerous most common. Molar - ramus region of mandible. at age 14.
- Painless Swelling w/ RL in bone
- Composed of bland collagenous CT, Sometimes locally destructive

OSTEOSARCOMA – Most common 1° Malignancy of Bone (non-hematopoietic).

- Young – distal femur/proximal tibia Old – assoc. w/ Paget's dx in axial skeleton.
- 6-8% in jaws. Swelling/pain, loose teeth, paresthesia, nasal obstruction
- 3 subtypes: Osteoblastic, chondroblastic, Fibroblastic histologically.
- RL or RO, ill defined. Widening of PDL. Osteophytic RxN (SUN RAY) in 25%.
-

CHONDROSARCOMA – malignant Neoplasm forming cartilage. Rare in Jaws (maxilla)

- painless mass. loosening of teeth, epistaxis, nasal obstruction, visual disturbance.

EWING'S SARCOMA: 1° bone malignancy - Neuroendocrine origin

- 90% show Reciprocal translocation. Jaw lesions Rare.
- Peak is 2nd Decade ~~Rare~~ 80% less than 20 yrs Rare in Brotha's
- Pain, Paresthesia, loose teeth
- ONION SKIN periosteal Reaction (in long bones)
- Histo: ROUND cells, *angiotropism (congregate around Blood vessels), Necrosis

Metastatic Jaw Tumors – Uncommon for met's - but can commonly involve the mandible Microscopically.

- Most Jaw Met's in Mandible.
- Pain, loose teeth, paresthesia
- Lucent lesion well or ill defined (moth eaten)
- Can mimic Periapical dx - occasional widened PDL space.
- Some carcinoma met's can stimulate bone growth - (usually osteolytic but can be osteosclerotic)
- Stage IV – less than 1 yr survival

Neuroblastoma - most common solid tumor of Childhood.