



GRAND ROUNDS (March 7, 2019)

Ladrado/3rd year/Dulnuan/Chiong/

UPCM 2021 Block 3: Cua, Daayata, Dator, Dauigoy, de la Calzada, de la Peña, Dela Rosa, de las Alas, de Leon, Delorino, Desamparado, Dispo, Distor, Ditan, Domingo, Dy, P., Dy, L., Empleo, Espartero, Esteleydes

DEPARTMENT OF OTORHINOLARYNGOLOGY
PHILIPPINE GENERAL HOSPITAL

VISION

The Department of Otorhinolaryngology shall be an internationally recognized center of excellence in the field of Otorhinolaryngology and Head and Neck Surgery

MISSION

The health needs of the Filipino shall be its prime consideration.

It shall provide excellence and leadership in the different aspects in Otolaryngology – Head and Neck Surgery by teaching, providing exemplary clinical practice and dynamically pursuing relevant researches beneficial to the community in an environment guided by moral, ethical and spiritual values.

General Information

- RMS
- 62/M
- Malabon City
- Married
- Roman Catholic
- Retired jeepney driver
- Right-handed



Chief Complaint

Mandibular Mass

History of Present Illness

12 years PTC (2007)

- Patient noted a **soft, fixed, 1x1 cm nontender mass on the mandible** with occasional swelling, bleeding and tenderness when palpated. (-) loosening of dentition
- In the interim, the patient noted continued growth of the mass, but did not seek consult.



History of Present Illness

12 years PTC (2007; cont)

- 4 months after, he noticed an increase in size (2x2x2cm), which prompted consult at the PGH OPD. There were no recalled associated symptoms noted at the time
- At PGH: Mass excision at the OPD OR, sent for histopathology
- Diagnosis unrecalled, patient was advised for follow-up but was non-compliant



History of Present Illness

In the interim (2007-2017)

- No recurrence of mass

2 years PTC (2017)

- Growth of a **soft, fixed, nontender mass at the same location**
- Associated symptoms:
 - Occasional tenderness & bleeding
 - Swelling
 - (+) Intermittent tooth pain
- Underwent incision biopsy: **Ameloblastoma**



Review of Systems

Constitutional: (-) fever (-) headache (-) anorexia (-) malaise (-) nausea (-) vomiting

HEENT: (-) blurring of vision (-) vision changes **(+) nasal congestion (clear mucus)** (-) ear pain and discharge (-) hearing loss (-) exophthalmos/proptosis (-) dysphagia (-) dysphonia (-) hoarseness (-) dry mouth (-) mouth ulcers

CVS/Respiratory: **(+) orthostatic hypotension (+) palpitations** (-) PND **(+) 4-pillow orthopnea** (-) edema

Endocrine: (-) tremors (-) heat/cold intolerance (-) psychomotor agitation (-) profuse sweating

GI/GU: (-) constipation (-) diarrhea (-) nocturia (-) tea-colored urine (-) dysuria

Skin and hair: (-) hair loss (-) xerosis

Neurologic: (-) poor memory

Past Medical History

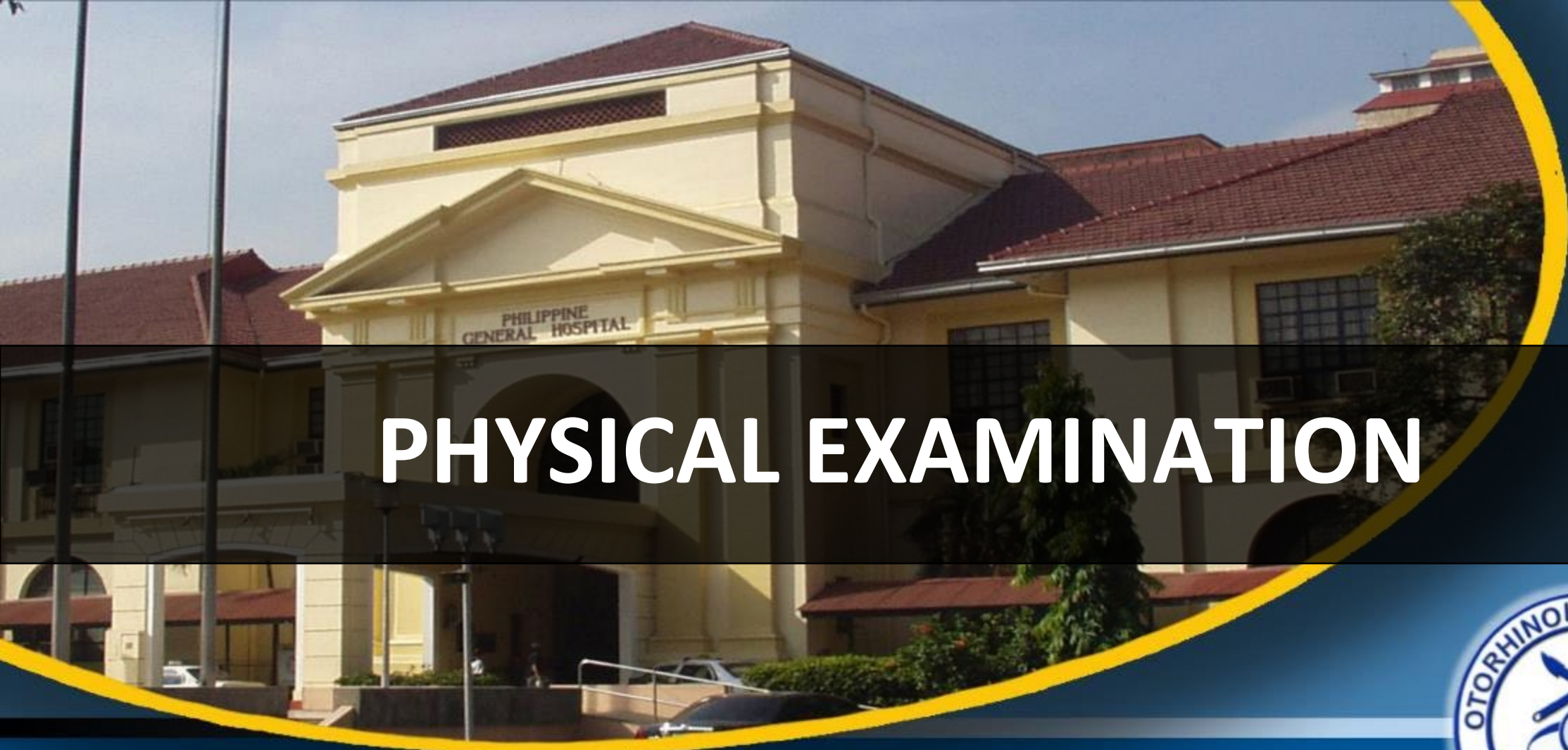
- Ischemic Heart Disease in Atrial Fibrillation with moderate ventricular response (40 years old)
 - Carvedilol 12.5 mg BID, Clopidogrel 75 mg OD
 - Advised to stop Clopidogrel prior to OR
- Hypertension Stage II, controlled (40 years old)
 - Irbesartan 75mg OD
- Dyslipidemia (40 years old)
 - Atorvastatin 40 mg OD
- (-) DM, lung, thyroid, kidney, liver, blood diseases, cancer, asthma, allergies
- Previous surgery as above
- (-) Previous hospitalizations

Family Medical History

- (+) Unrecalled heart disease – father
- (+) Hypertension – mother
- (-) DM, lung, thyroid, kidney, liver, blood disease, cancer

Personal and Social History

- Married for 36 years, with one daughter
- Retired jeepney driver and fisherman
- (-) Tobacco, alcohol, illicit drug use
- Diet: chicken, fish, meat, 1-2 cups of rice/day; no coffee intake



PHYSICAL EXAMINATION

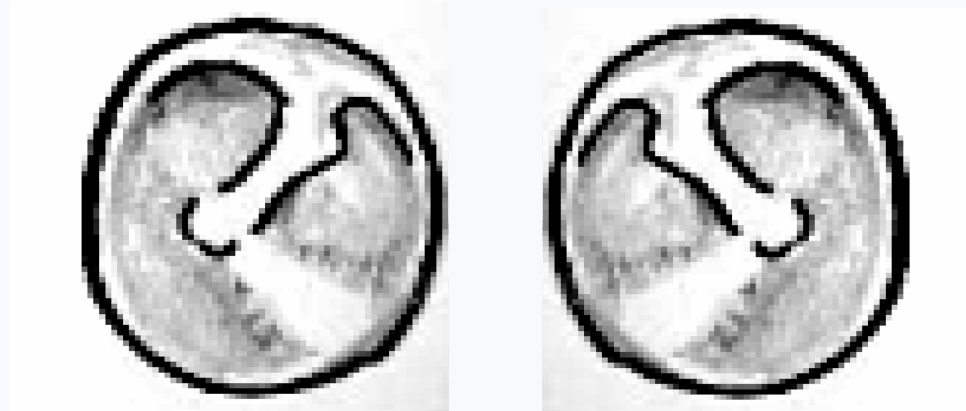


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SYSTEMIC PHYSICAL EXAM

| | |
|--------------------|---|
| General | Awake, alert, cooperative, not in cardiorespiratory distress |
| Vital signs | <u>BP</u> 100/60 <u>HR</u> 70 <u>RR</u> 20 <u>Temp</u> 37.2°C <u>Oxygen saturation</u> 98% |
| HEENT | Anicteric sclerae, pink conjunctivae |
| Lungs | Equal chest expansion, clear breath sounds, no adventitious sounds |
| Chest | Adynamic precordium, PMI at the 5th ICS LMCL, no heaves/thrills, normal rate, irregularly irregular rhythm , S1>S2 at apex; S2>S1 at base no murmurs |
| GI | Flat, symmetrical, non-tender abdomen, no masses/scars, hyperactive bowel sounds per minute, no bruits, tympanitic on all quadrants, 6.5 cm liver span, intact Traube space |
| Extremities | Full equal pulses, pink nail beds, normal capillary refill time (<2s), full range of motion and 5/5 muscle strength for all extremities, (-) nail clubbing, (-) edema (+) 1.5 x 2 cm non-tender cystic, smooth, moveable mass on the medial right forearm |

OTOLOGIC EXAM



No gross deformities on inspection
Intact tympanic membrane, bilateral
Cone of light appreciated, bilateral
No discharge, no masses, no impacted cerumen

ANTERIOR RHINOSCOPY EXAM

Superior

Lateral

Medial
(septum)

- Septum midline
- Pink mucosa
- No masses, lesions, polyps
- No discharge

POSTERIOR RHINOSCOPY EXAM

- Septum midline
- Pink mucosa
- Superior, middle, and inferior turbinates were visualized
- No masses, bleeding
- **(+) clear post nasal mucoid discharge**



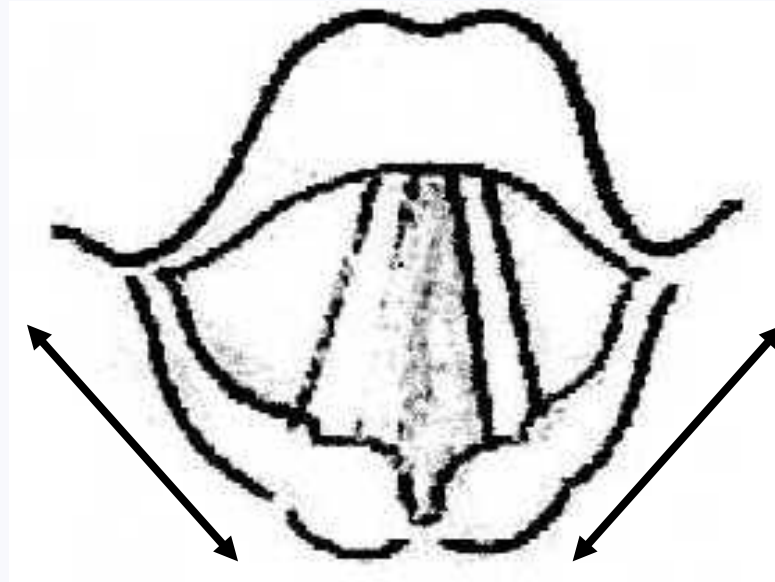
Inferior (nasal floor)

ORAL CAVITY EXAM



- Pink oral mucosa
- **3.5 x 3 x 2.5 cm inferior alveolar ridge mass at the right, fixed, hard; extending from right lower premolar to left canine, and posteriorly to the floor of the mouth**
- (+) Dental caries
- (+) Loose dentition at the area of the mass
- Tongue midline
- Pharyngeal arches intact
- (+) Postnasal discharge

INDIRECT LARYNGOSCOPY



- Non-erythematous mucosa
- Fully mobile vocal cords
- No masses noted

HEAD & NECK EXAMINATION

- **(+) Cervical lymphadenopathy**
 - Level 1B, smooth, non-tender, movable 2 x 2 cm, right
 - Level 1A, smooth, non-tender, movable 1 x 1 cm, left
- **(-) Anterior neck mass**





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CASE SUMMARY



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- RMS 62/M, married, former jeepney driver from Malabon
- History of gradually enlarging nontender mandibular mass; s/p mass excision at PGH, 2007
- Recurred nontender mandibular mass 10 years later
- Incision biopsy results reveal Ameloblastoma
- Known hypertensive, with Ischemic Heart Disease in Atrial Fibrillation with moderate ventricular response



PRIMARY WORKING IMPRESSION



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Ameloblastoma, mandible
Hypertension, Stage II, controlled
Ischemic Heart Disease, in atrial fibrillation with
moderate ventricular response
s/p Mass excision (at PGH, 2007)
s/p Incision biopsy (2018)

Differential Diagnosis

| | Rule In | Rule Out |
|--|---|----------|
| Odontogenic Tumor (t/c Ameloblastoma) | <ul style="list-style-type: none">● Slow-growing, soft, fixed, mass with swelling, bleeding, and recurring after 10 years● Common● No constitutional signs and symptoms of cancer● Cervical lymphadenopathies are most likely reactive | |

Differential Diagnosis

| | Rule In | Rule Out |
|---|---|---|
| Odontogenic Cysts <ul style="list-style-type: none"> ● dentigerous cysts ● eruption cysts ● periapical cysts ● lateralized cysts ● keratinizing odontogenic cysts ● Odontogenic cyst of unknown origin | <ul style="list-style-type: none"> ● Slow-growing, painless mandibular mass ● No constitutional signs and symptoms of cancer ● Cervical lymphadenopathies are most likely reactive | <ul style="list-style-type: none"> ● No unerupted teeth seen in panoramic x-ray ● No nonvital teeth (specifically for some cysts) |

Differential Diagnosis

| | Rule In | Rule Out |
|--|---|--|
| Osteogenic Tumor (t/c Osteosarcoma) | <ul style="list-style-type: none">● Hard mass with swelling, bleeding, highly recurring | <ul style="list-style-type: none">● Fast-growing, hard, fixed neoplasm that would most likely accompany metastases when it recurs● Rare; usually a secondary malignancy in adults to irradiation, bone infarction, etc.● Usually has constitutional signs and symptoms |

Differential Diagnosis

| | Rule In | Rule Out |
|---|---|--|
| Primary Intraosseous Carcinoma of the Mandible | <ul style="list-style-type: none"> ● Slow-growing, painless mandibular mass | <ul style="list-style-type: none"> ● Very rare; usually in case-reports |
| Malignant Ameloblastoma / Ameloblastic Carcinoma | <ul style="list-style-type: none"> ● Slow-growing, soft, fixed, mass with swelling, bleeding, and recurring after 10 years ● Cervical lymphadenopathies | <ul style="list-style-type: none"> ● Very rare; usually in case-reports |



DIAGNOSTICS



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DIAGNOSTICS AND RATIONALE

| TEST | RATIONALE |
|--------------------------------------|---|
| Panoramic X-ray | To evaluate and assess the extension of the mass |
| Incision biopsy | To evaluate cytologic architecture of the mass |
| CT Scan (Head & Neck) | Gold standard to evaluate the extent of ameloblastoma and to plan for treatment |

Effiom, O.A., Ogundana, O.M., Akinshipo, A.O., & Akintoye, S.O. (2018). Ameloblastoma: current etiopathological septs and management. *Oral diseases*, 24: 307-316. doi:10.1111/odi.12646
Flint et. al. (2015). *Cummings Otolaryngology Head and Neck Surgery* (6th ed). Philadelphia, PA: Elsevier Saunders.
McClary et. al. (2016). Ameloblastoma: A clinical review and trends in management. *European Archives of Otorhinolaryngology*, 273(7): 1649 - 1661. doi: 10.1007/s00405-015-3631-8



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DISCUSSION



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Ameloblastoma

- **Most common odontogenic tumor (90%)**
 - 80% involving the mandible and maxilla
 - molar ramus area
- Rare, benign, slow-growing
- Most common: **3rd to 5th decade of life**



Fomete, B., Adebayo, E.T., & Ogbeifun, J.O. (2014). Ameloblastoma: our clinical experience with 68 cases. *JOFS*. 6(1): 7-24. DOI: 10.4103/0975-8844.132570

Ameloblastoma

- Large, disfiguring, and locally invasive and aggressive
- Has a **tendency to recur**
- Possibly associated with **BRAF V600E gene mutations**



Fomete, B., Adebayo, E.T., & Ogbeifun, J.O. (2014). Ameloblastoma: our clinical experience with 68 cases. *JOFS*. 6(1): 7-24. DOI: 10.4103/0975-8844.132570

Kurppa, KJ, et al. (2014). High frequency of BRAF V600E mutations in ameloblastoma. *J Pathol*, 232(5):492-8. doi: 10.1002/path.4317

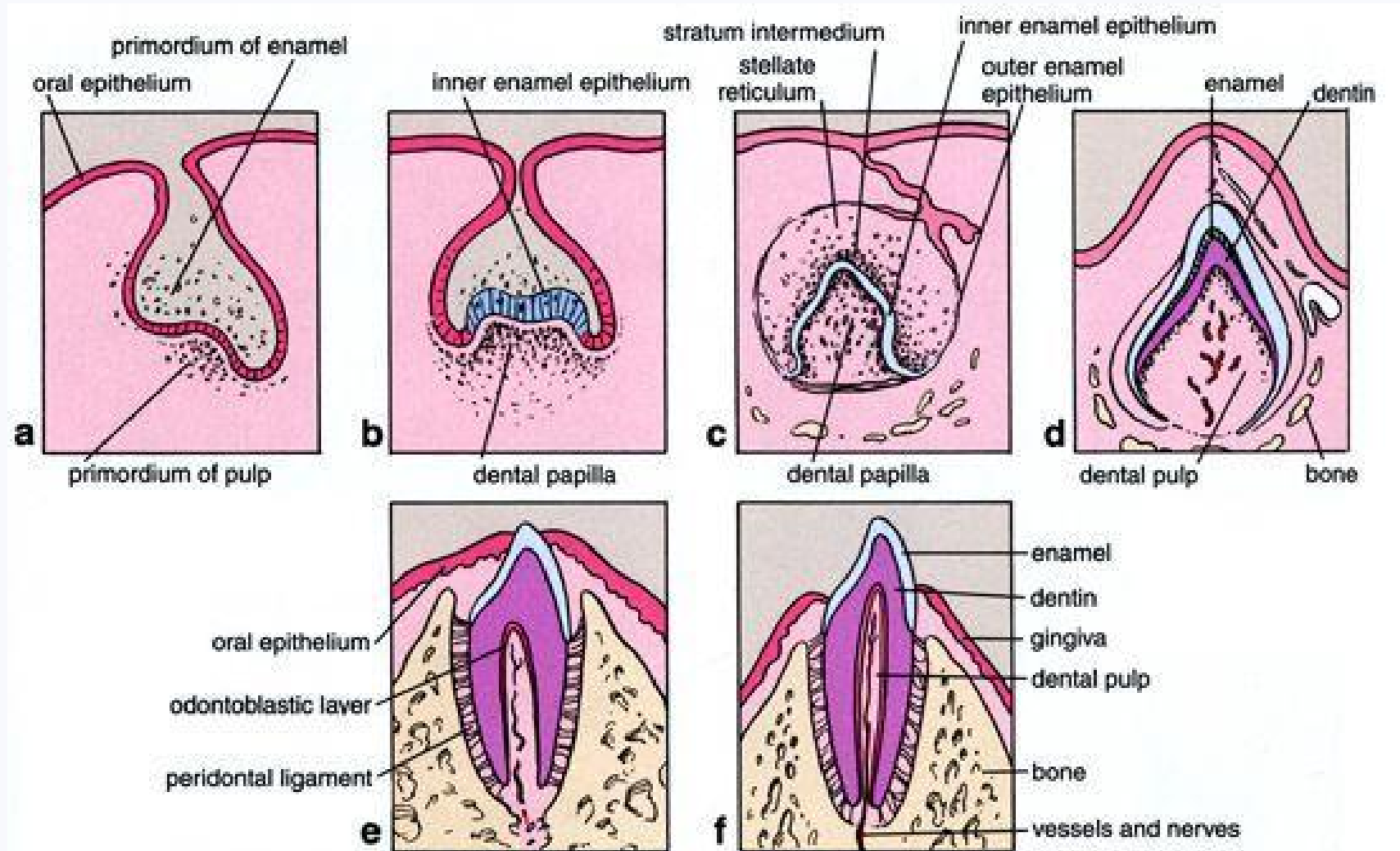
Clinical Presentation

- Painless progressive facial swelling and deformity
- Intact skin
- Cosmetic concern alerts the patient
 - *“Tumatabingi ang mukha, lululuwag ang ngipin, umiiba yung kagat”*
- May be associated with unerupted third molar teeth (usually in unicystic ameloblastoma)



Angadi, P.V. (2010). Head and neck: odontogenic tumor: ameloblastoma. *Atlas of Genetics and cytogenetics in oncology and haematology*. Retrieved from <http://atlasgeneticsoncology.org/Tumors/AmeloblastomID5945.html>.

Odontogenesis



<http://dentallecnotes.blogspot.com/2011/08/note-on-tooth-developmentodontogenesisw.html>

Radiography

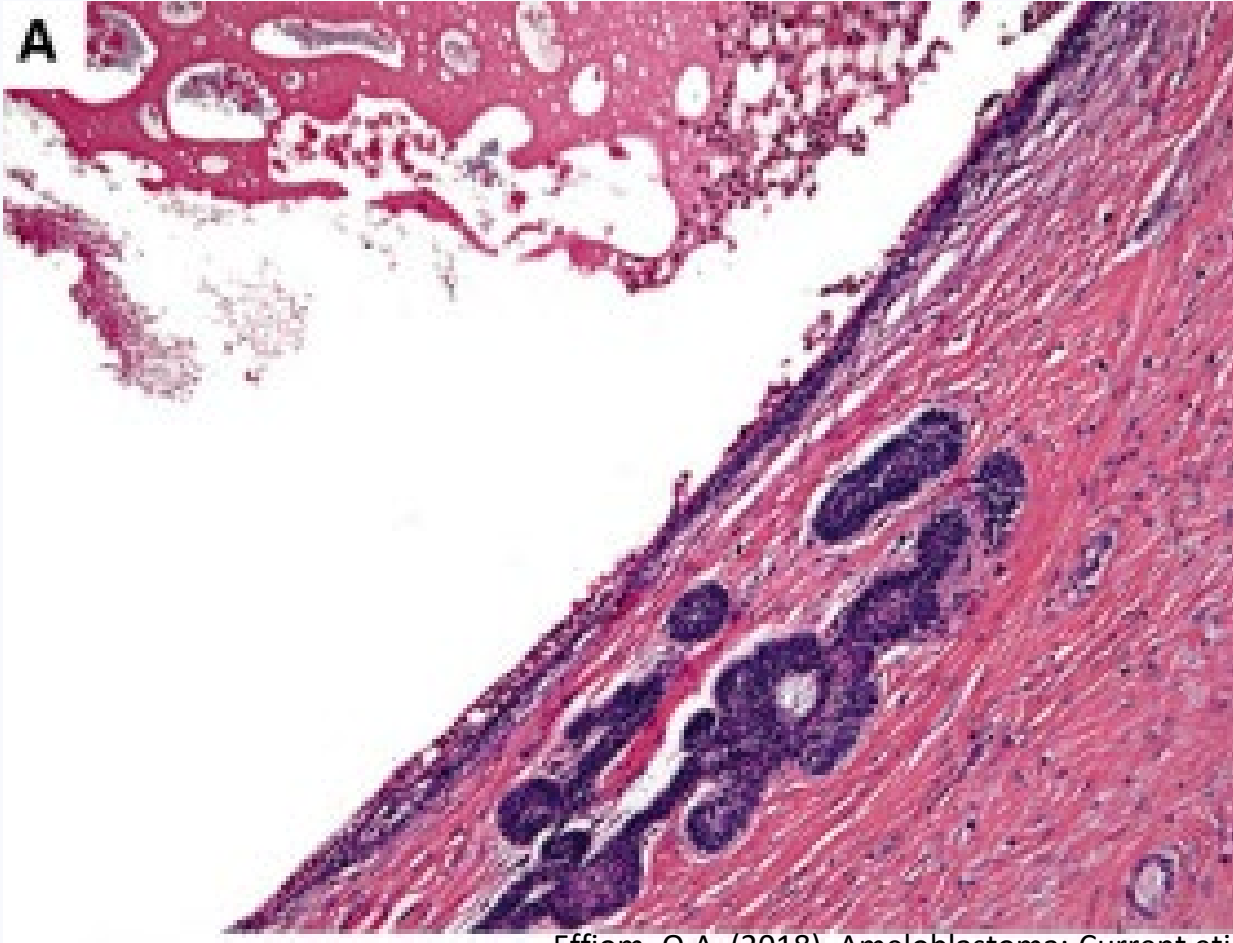


Soap bubble
appearance

Figueiredo, N.R. (2014). Ameloblastoma: A clinicoradiographic and histopathologic correlation of 11 cases seen in Goa during 2008-2012. Contemporary Clinical Dentistry. Retrieved from: <http://www.contempclindent.org/article.asp?issn=0976-237X;year=2014;volume=5;issue=2;spage=160;epage=165;aulast=Figueiredo>

Lytic cysts (“soap bubble appearance;” cystic translucencies)

Classification (WHO 2005)



- Solid/multicystic - most common (91%)
- **Unicystic (5-15%)** - most benign
- Extra osseous (2%)
- Desmoplastic (1%)

Effiom, O.A. (2018). Ameloblastoma: Current etiopathological concepts and management. *Oral Diseases*, 24, 307-316. Retrieved from: http://oralpathol.dlearn.kmu.edu.tw/case/Journal%20reading-intern-18-06/ameloblastoma%20review-2018-Oral_Diseases.pdf

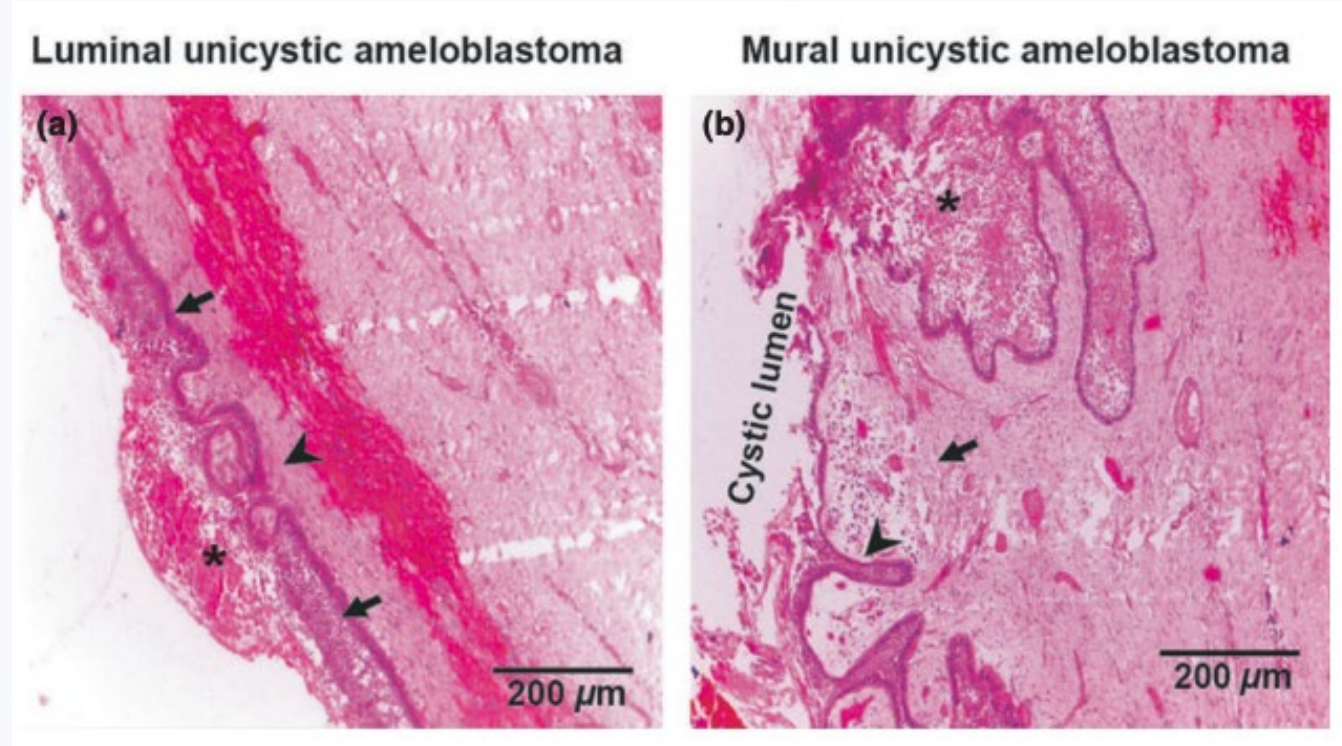
Unicystic Ameloblastoma

- ~5-15% of all ameloblastomas
- Most are found in the posterior mandible
- Most often occurs in the 2nd and 3rd decade of life
- Usually asymptomatic
- Resembles dentigerous cysts

Flint et. al. (2015). *Cummings Otolaryngology Head and Neck Surgery* (6th ed). Philadelphia, PA: Elsevier Saunders.

Unicystic Ameloblastoma

- Must:
 - be unilocular
 - be unicystic
 - display pathologic features of an ameloblastoma (Vickers & Gorlin Criteria)
- Can either be 1) Luminal, or 2) Mural



Effiom, O.A. (2018). Ameloblastoma: Current etiopathological concepts and management. *Oral Diseases*, 24, 307-316. Retrieved from: http://oralpathol.dlearn.kmu.edu.tw/case/Journal%20reading-intern-18-06/ameloblastoma%20review-2018-Oral_Diseases.pdf

Malignant Ameloblastoma

- **Metastasizing tumors that retain the typical morphology of ameloblastoma**
- Majority of the distant metastases have been **preceded by several local recurrences**
- **Distant metastases are RARE**
 - Lungs (most common)
 - CNS

Flint et. al. (2015). *Cummings Otolaryngology Head and Neck Surgery* (6th ed). Philadelphia, PA: Elsevier Saunders.

Risk Factors

- **No fully established risk factors** due to its rarity

Potential risk factors:

- Presence of unerupted teeth, or dentigerous cysts
- Gorlin Syndrome

UP PGH Department of Otorhinolaryngology Clinical Practice Guidelines, Probst, Gervers, Iro, Basic Otolaryngology (2006)

Flint et. al. (2015). *Cummings Otolaryngology Head and Neck Surgery* (6th ed). Philadelphia, PA: Elsevier Saunders.

Ponti, G et al. (2015). Ameloblastoma: a neglected criterion for nevoid basal cell carcinoma (Gorlin) syndrome. *Farm Cancer*, 11(3):411-8. doi: 10.1007/s10689-012-9529-3.

Philippine Statistics on Ameloblastoma

- **1997** (latest available study)
 - Retrospective study among Filipinos with ameloblastoma from six Metro Manila hospitals
 - Age range: **9-60 years old (more frequent during 2nd decade of life)**
 - Most common site: **right side of the mandible at the molar ramus**
 - **No significant differences between sexes**
 - Treatment: either **mandibular resection** or **hemimandibulectomy**

Gervasio, N.C. (1997). Clinical profile of ameloblastoma among Filipino patients in Metro Manila hospitals. *J Philipp Dent Assoc*, 49(3): 5-19

References

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- Kumar, V., Abbas, A., & Aster, J. (2015). *Robbins and Cotran Pathologic Basis of Disease* (9th ed.). Philadelphia: Elsevier Inc.
- Masthan, K., Anitha, N., Krupaa, J., & Manikkam, S. (2015). Ameloblastoma. *Journal of Pharmacy & Bioallied Sciences* 7: 167 - 170. doi: 10.4103/0975-7406.155891
- McClary et. al. (2016). Ameloblastoma: A clinical review and trends in management. *European Archives of Otorhinolaryngology*, 273(7): 1649 - 1661. doi: 10.1007/s00405-015-3631-8
- Rosai, J., Ackerman, L.V. , & Rosai, J. (2011). *Rosai and Ackerman's Surgical Pathology*. Edinburg: Mosby.
- Steinberg, B. (2009). *Ameloblastoma*. Retrieved from <https://rarediseases.org/rare-diseases/ameloblastoma/>