GRAND ROUNDS (June 28, 2019)

Magbuhat/Diaz/Arbizo/Mendoza

VISION

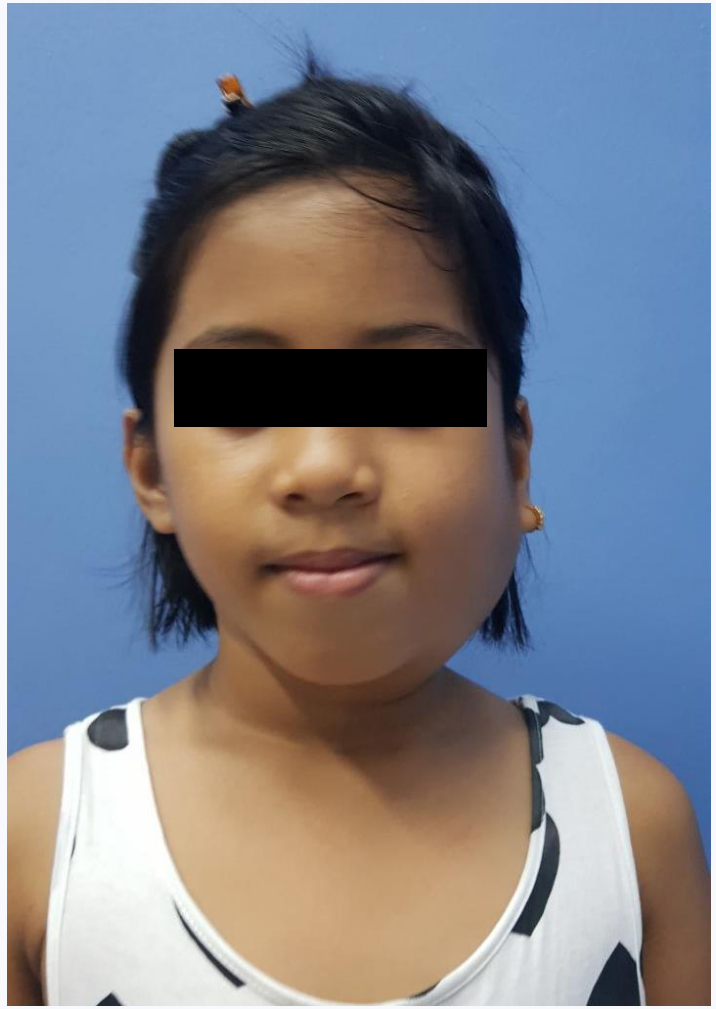
The Department of Otorhinolaryngology shall be an internationally recognized center of excellence in the field of Otorhinolaryngology and Head and Neck Surgery

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 DATA



- PDLC
- 6/F
- Single
- Christian
- Grade II student
- Narra, Palawan

Chief Complaint

Left infra-auricular mass.

HISTORY OF PRESENT ILLNESS

4 years PTA

- Patient's parents noted growth of an infrauricular mass, starting initially **around 2 cm x 2 cm (1-peso) in size**, soft, non-movable, non-tender.

- No other symptoms such as fever, weight loss, facial numbness or facial muscle weakness noted. No dyspnea, dysphagia, odynophagia, voice changes were noted. No consult was done, no medications taken.

2015

HISTORY OF PRESENT ILLNESS

2 years PTA

- Patient's parents noted gradual increase in size, prompting several consults at a local pediatrician where ultrasound of the neck revealed **brachial cleft cyst, left**; and fine needle aspiration biopsy showed suggestive of **benign neoplasm of which hemangioma** is highly considered.

- Patient was initially advised to observe the mass. In the interim, patient's mother noted growth of left tonsil, with no noted odynophagia, snoring episodes.

2015

2017

HISTORY OF PRESENT ILLNESS

1 year PTA

- Patient was eventually **referred to PGH ORL OPD** where she was initially assessed as a case of **left infrauricular mass, to consider hemangioma**. Patient was referred to Oral Cavity Clinic where the patient was advised referral to Pediatrics for propranolol therapy.

- Patient was seen by Pediatrics and advised referral to Pedia Hematology-Oncology. However, the patient's parents opted to continue treatment at a local hospital in Palawan

2015 2017 2018-3

HISTORY OF PRESENT ILLNESS

7 months PTA

- Patient finished 6 months of propranolol therapy from April – Oct 2018 with no noted reduction in the size of the mass
- On **repeat Neck CT with contrast 11/2018**, noted large, well-defined heterogenously enhancing lobulated mass with calcification occupying the left buccal, left masticator, left parotid, left carotid and left submandibular spaces, and bilateral cervical lymphadenopathies
- Patient was advised referral back to PGH for possible surgical plans

HISTORY OF PRESENT ILLNESS

2 months PTA

- Patient followed up at the Oral Cavity Clinic where the patient was advised repeat imaging
- On **CT Scan of the Neck and Oral Cavity**, noted
  - Large hemangioma, left lateral neck, with mass effects
- Oral Cavity Clinic disposition (5/14/2019) was excision, possible mandibulotomy, and possible tracheostomy

REVIEW OF SYSTEMS

(-) dysphagia/odynophagia

(-) dyspnea

(-) chest pain, palpitations, tremors

(-) heat/cold intolerance (-) appetite changes,

(-) gross hearing loss, tinnitus, aural fullness,

(-) abdominal pains, bowel movement changes

(-) pallor, cyanosis, edema

PAST MEDICAL HISTORY

Birth and Maternal

- Born full-term to a 19 year old G1P0 mother with no fetomaternal complications. No noted exposures to alcohol and tobacco.

Immunization

- Unrecalled; allegedly complete via local health center

Nutrition

- Breastfed up to 1 month only then shifted to bottle feeding with formula milk. Started solid food at 6 months

Developmental

- At par with milestones; Currently a Grade II student with above average performance in school

FAMILY MEDICAL HISTORY

(+) Hypertension – both paternal and maternal side

(-) Undiagnosed masses

(-) Malignancies or cancer

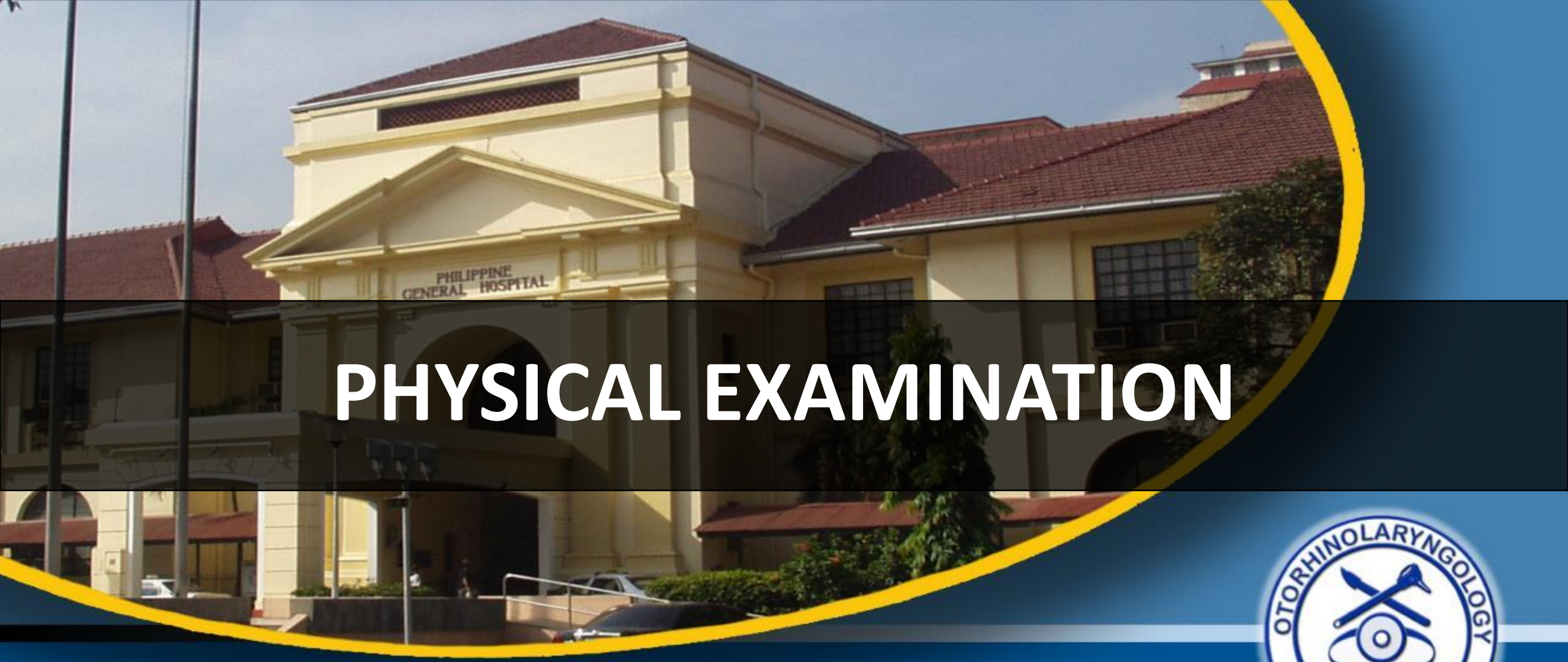
(-) Diabetes mellitus

(-) Tuberculosis

(-) Bronchial asthma

PERSONAL-SOCIAL HISTORY

- Father: Office clerical employee
- Mother: Unemployed; housewife
- 2 other siblings at home
- Lives in a single floor house in Narra, Palawan



PHYSICAL EXAMINATION

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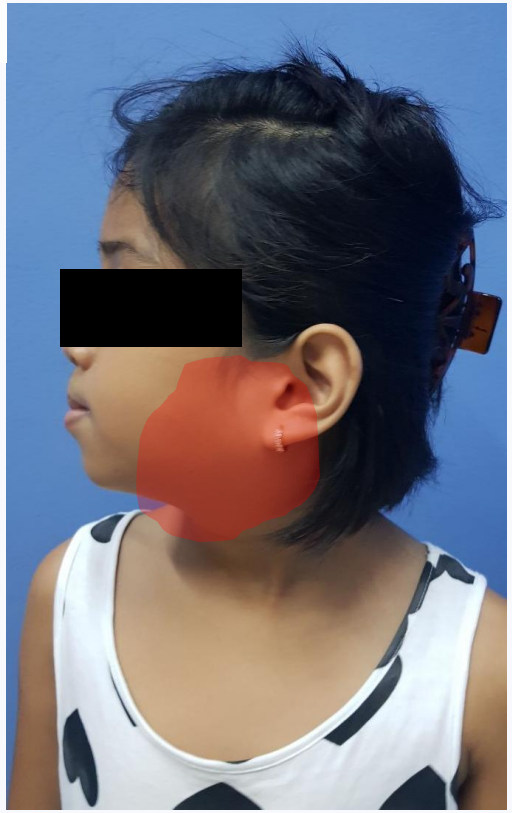
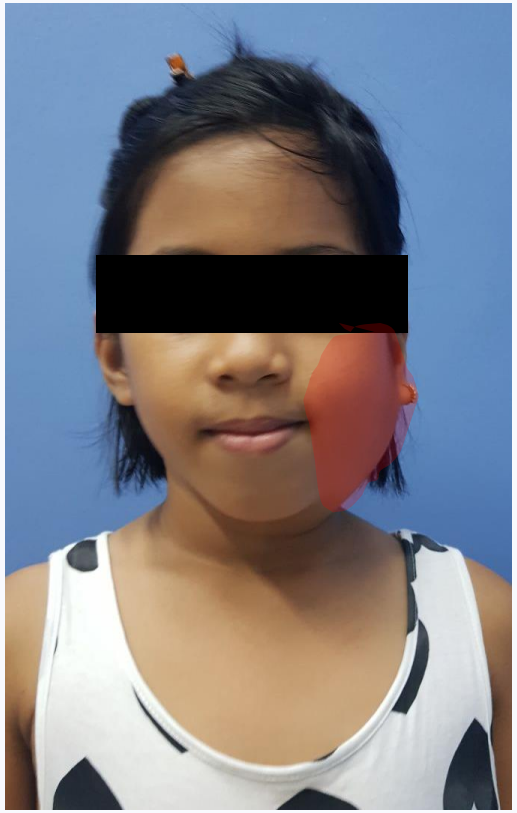
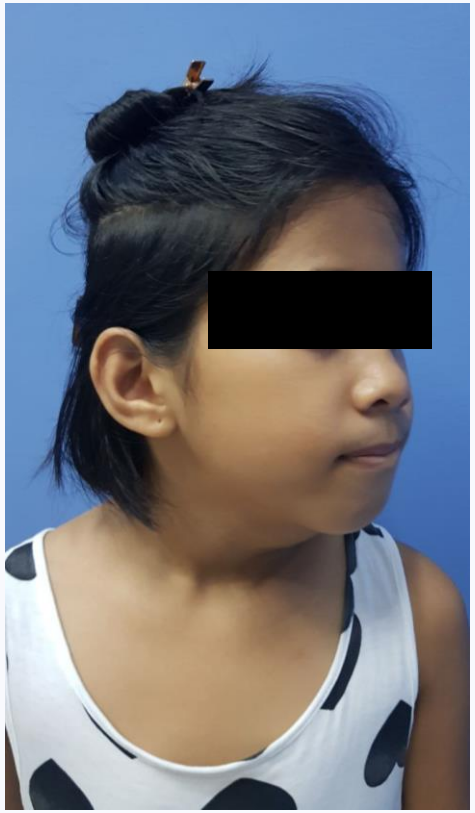
SYSTEMIC PE

- **BP** 90/60 RR 20 HR 96 regular O2 sats 98%
- **GENERAL:** awake, coherent, ambulatory, not in cardiorespiratory distress
- **CARDIAC:** adynamic precordium, normal rate regular rhythm, no murmurs
- **PULMONARY:** equal chest expansion, clear breath sounds, no rales/wheezes
- **ABDOMEN:** flat abdomen, no masses or areas of tenderness, normoactive bowel sounds
- **EXTREMITIES:** pink nail beds, good capillary refill, no cyanosis or edema

HEAD & NECK EXAMINATION





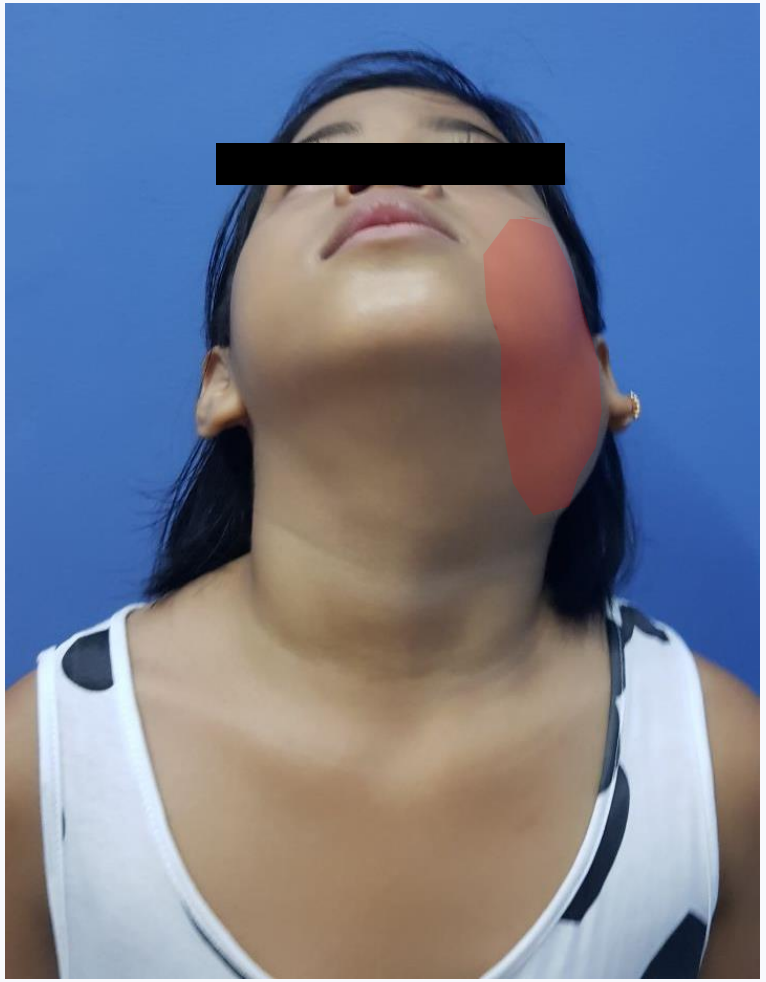


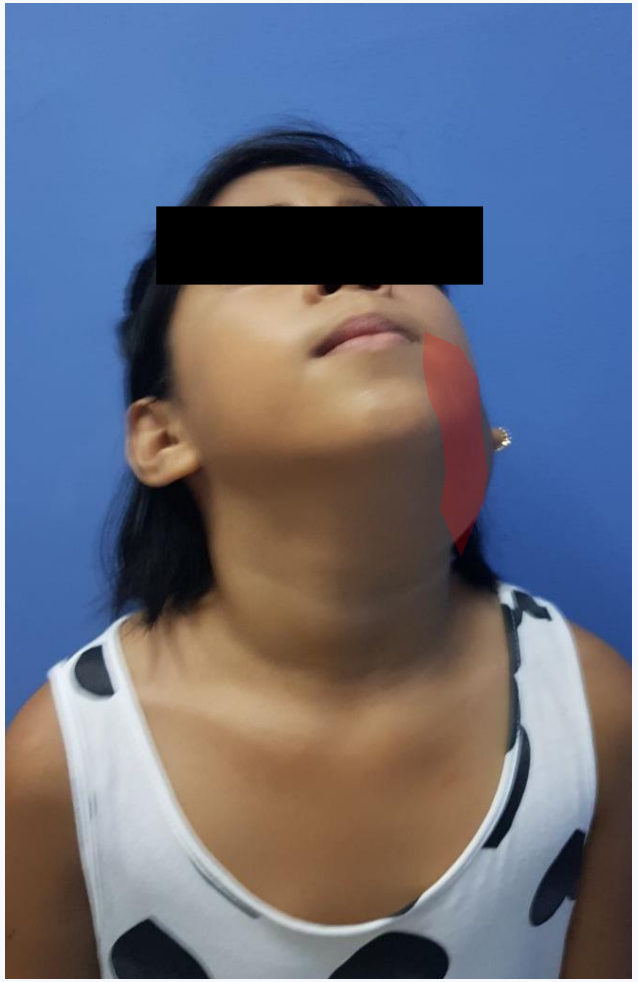
LEFT side of the neck,
9 cm x 8 cm x 5 cm soft, non-movable, non-tender mass, non-pulsatile

Trachea midline
Palpable sternal notch

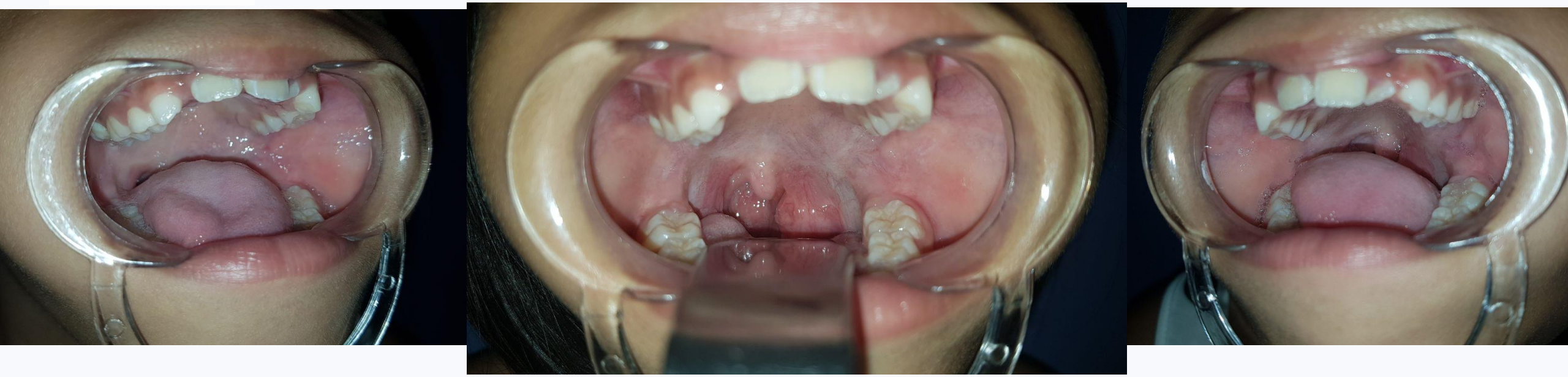
RIGHT side of the neck,
No palpable masses, cervical lymphadenopathies

HEAD & NECK EXAMINATION



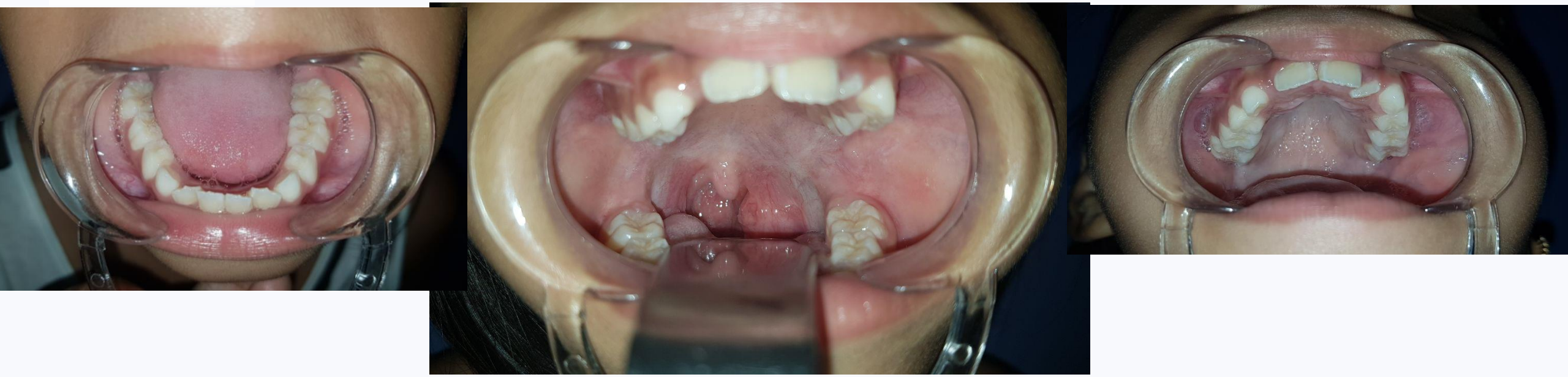


ORAL CAVITY EXAMINATION



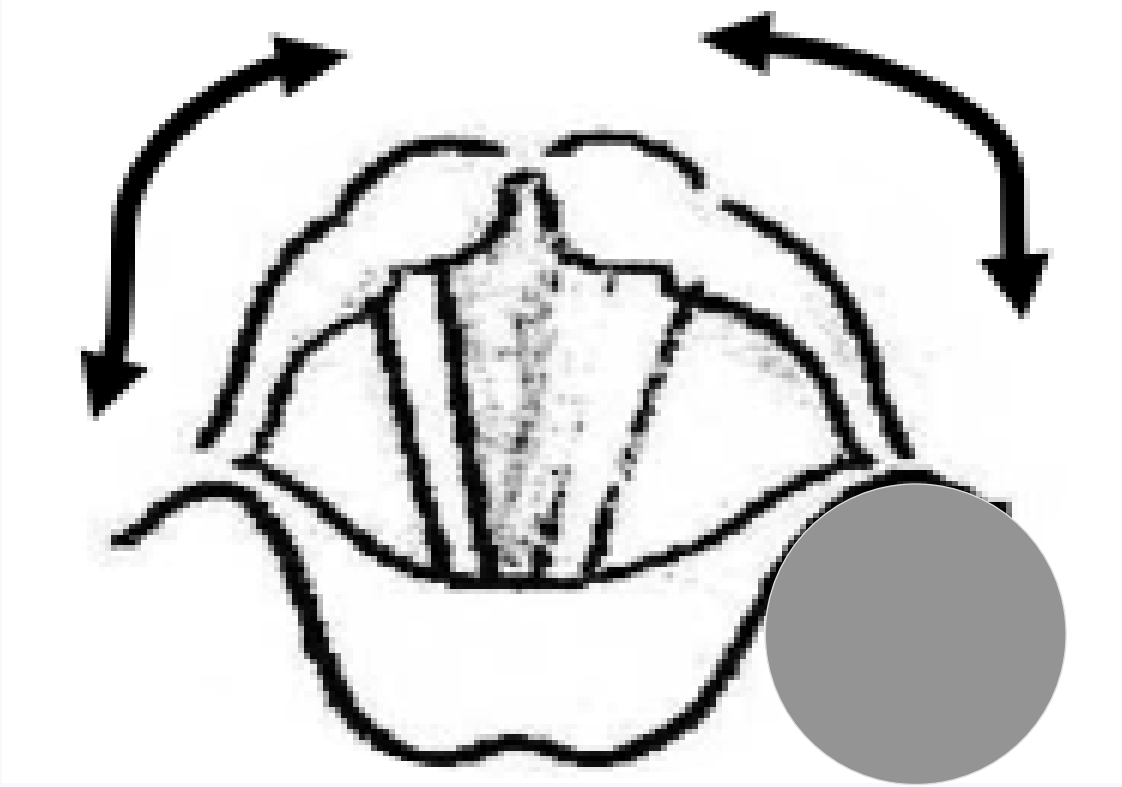
Pink oral mucosa, no active bleeding or ulcerations
Tongue is in midline, Uvula slightly deviated to the left
Hypertrophic bilateral tonsils Grade III right, Grade IV left; No exudates noted
No dental caries noted

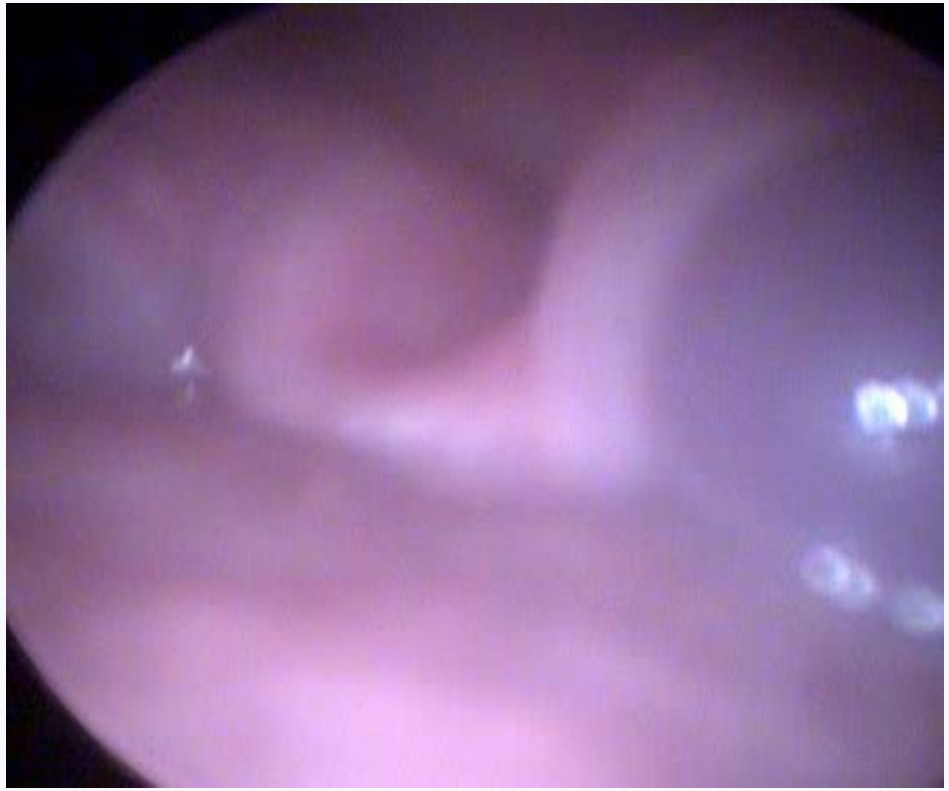
ORAL CAVITY EXAMINATION



No noted foul smelling breath or discharge, no palpable masses at the floor and roof of mouth

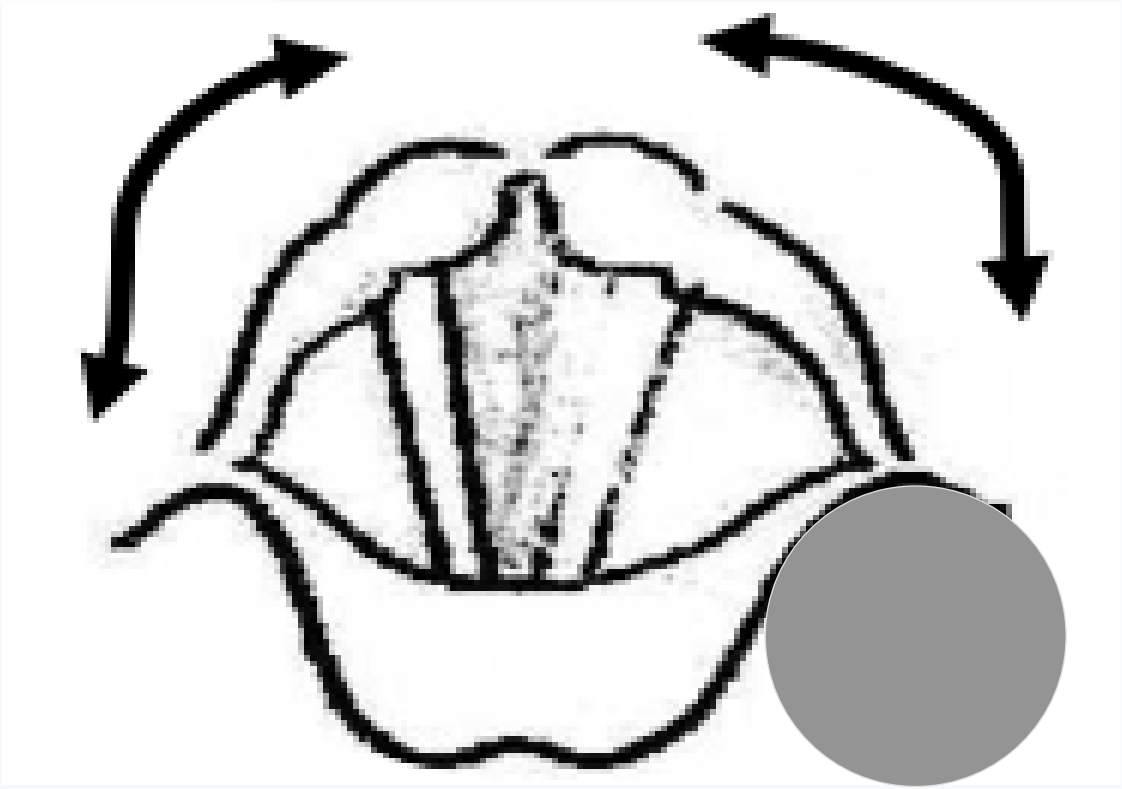
ORAL CAVITY EXAMINATION

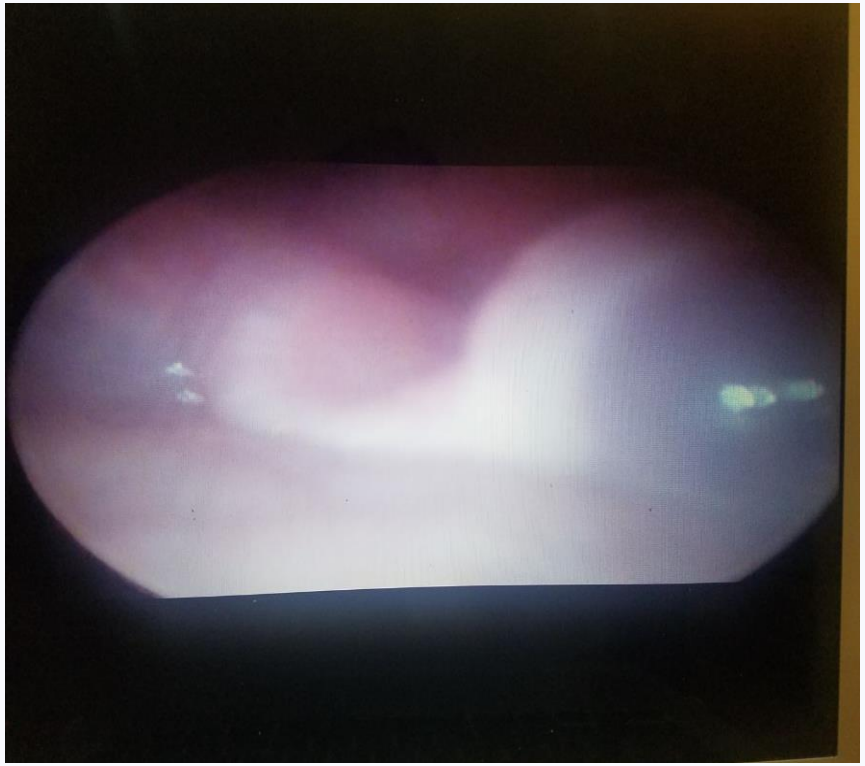




- Translucent looking smooth mass, pushing the vallecula and lingual side of the epiglottis to the right
- Vocal cords fully mobile, glottic chink 4-5 cm

ORAL CAVITY EXAMINATION





- Translucent looking smooth mass, pushing the vallecula and lingual side of the epiglottis to the right
- Vocal cords fully mobile, glottic chink 4-5 cm

OTOLOGIC EXAM

No gross deformities, patent external auditory canal
(-) tragal tenderness (-) mastoid tenderness

OTOSCOPY:
Intact tympanic membrane, AU
(-) masses (-) discharge;
On pneumatoscopy, noted fully mobile

RHINOSCOPIC EXAM

Mucosa pink, smooth
Septum not deviated
(-) mass/polyps
(-) bleeding/discharge

(-) masses
(-) discharge

DIAGNOSTICS

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Diagnostics

6/25/2019

BUN 3.9 **Crea** 32

Na 142 **K** 3.7 **Cl** 107

CBC WBC 6.60 Hgb 122 Hct 0.37 Plt 251 N 56 L 28 M 8 E 8 B 0

PT-Ref 12.6 PT-Time 14.7

PT% 80 PT-INR 1.17

APTT-Reference 30.38 APTT-Time 32.4

Diagnostics

Soft Tissue Ultrasound 2/23/2017

There is a well circumscribed cystic, fluctuant, compressive with internal septations seen in the Left submandibular region, anterior to the sternocleidomastoid muscle, measuring **3.9 x 2.2 x 2.7 cm**

Findings suggestive of a branchial cleft cyst, left

Diagnostics

Neck CT Scan 8/3/2017	Hypodense mass in the Left parotid space, with tiny calcifications therein in the left parotid space, obliterating the left parapharyngeal space and encasing the left retromandibular vein. There is an intense enhancement in the venous phase, measuring about **4.2 x 5.1 x 4.0 cm**. This lesion displaces the oropharynx to the right.
Neck CT Scan 11/7/2018	Large well-defined heterogenously enhanced lobulated mass with calcification occupying the left buccal, left masticator, left parotid, left carotid, and left submandibular spaces with mass effects, measuring **6.1 x 8.0 x 9.1 cm**

Diagnostics

Neck CT Scan 5/7/2019	Large, lobulated, transspatial mass in the L lateral cervical region, centered in the carotid space, measuring **9.7 x 7.8 x 8.6 cm**. The mass is isodense to muscle, and has multiple small calcifications within it. After contrast administration patchy regions of enhancement are noted; here are also blood vessels seen coursing around and within the mass, some prominent in size. Superiorly, the mass abuts the parotid gland; its inferior pole is seen at the level of the cricoid cartilage. The sternocleidomastoid muscle is compressed. Medially, the mass insinuates into the L parapharyngeal space and oral cavity floor, pushing the pharynx and tongue to the right without invading these structures. The ipsilateral internal jugular vein is also compressed.

CASE SUMMARY

6/F with a 4 year history of a gradually enlarging left infra-auricular mass, soft, non-tender, with no noted dyspnea, dysphagia, facial weakness, fever.

On Physical exam, noted 9 cm x 8 cm x 5 cm soft, non-movable, non-tender mass on the left-infrauricular area.

Fine needle aspiration biopsy revealed benign neoplasm, to consider hemangioma.

Recent CT Scan shows large hemangioma, left lateral neck with mass effects, 9.7 x 7.8 x 8.6 cm

Patient has also no known comorbidities.

Primary Working Impression

Hemangioma, left infraauricular area

s/p Propranolol therapy (October 2019)

DISCUSSION

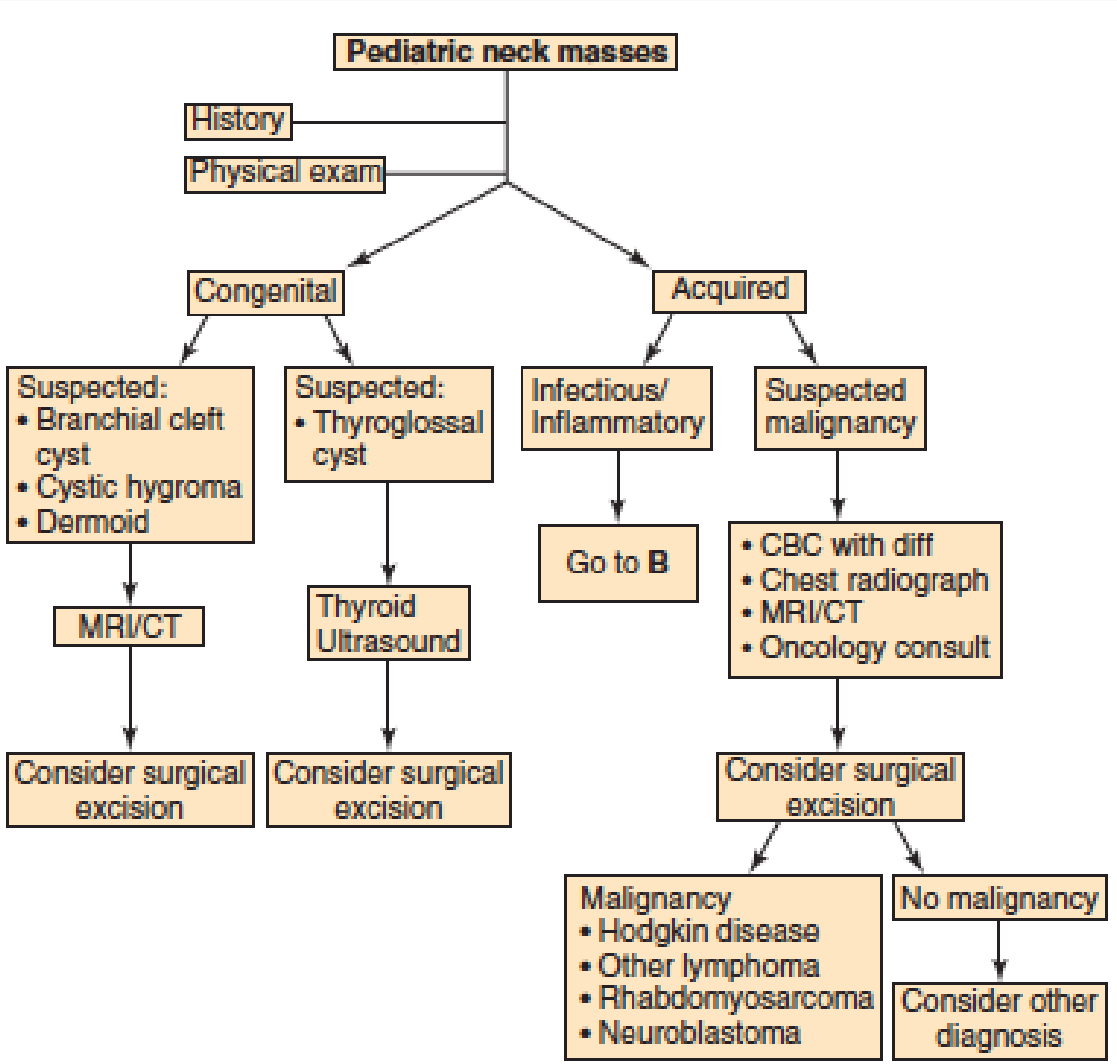
DISCUSSION

Head and Neck Masses in Children

- Congenital lesions comprise majority, >50%
- Most acquired masses are inflammatory in origin
- Most of pediatric neck masses are benign in nature

History

- Temporal relationships
- Speed of growth
  - Slow – benign; Rapid – malignant
  - Fluctuations in size
- Psychosocial impact due to patient due to disfiguring nature



Differential Diagnosis

	Rule In	Rule Out
Branchial cleft cyst	Nontender, fluctuant masses on neck Initially cystic in character	Congenital, usually present at birth Vascularized
Thyroglossal duct cyst	Nontender, fluctuant masses on neck Initially cystic in character	Not midline; Does not move on tongue protrusion
Hemangioma	Soft, smooth, non-tender, compressible mass Grow rapidly at 1st to 2nd year of life Vascularized	Usually involutes Cutanous component
Arteriovenous malformations	Soft, smooth, non-tender Grows with the child	Congenital, present at birth No pulsations, bruits
Lymphangioma	Soft, smooth, non-tender, compressible mass	Fluid filled spaces with surrounding connective tissues Not vascularized

Vascular Head and Neck Masses

- 60% of vascular anomalies in children present in the head and neck
- Vascular tumors
  - Rapidly proliferating cells and incomplete blood vessels
  - Can be absent or present at birth
- Vascular malformations
  - Present at birth
  - Grow in proportion with the child
  - Dysplastic arterial, venous or lymphatic vessels
  - Spontaneous involution does not occur
  - High flow and low flow lesions

Vascular Head and Neck Masses

Table 2 Differentiation of vascular tumours and malformations

	Vascular tumours			
Differentiation	Infantile haemangioma	Congenital haemangioma	Kaposiform hemangioendothelioma; tufted angioma	Vascular malformations
Presentation	Absent or small at birth	Present at birth —commonly large	Present before age of 5 years	Present at birth
Growth	Rapid growth during infancy	No growth	Slow growth during childhood; hemangioendothelioma can be locally aggressive	Proportional to growth of child
Involution	Involution through childhood (90% by 9 years)	Rapid involution (RICH) within first year of life; or non-involuting (NICH)	No involution	No spontaneous regression
Lesion	Solid lesion	Solid lesion	Solid lesion	Lesion comprises dysplastic vessels, spaces or channels

RICH, rapidly involuting congenital haemangioma; NICH, non-involuting congenital haemangioma.

Vascular Head and Neck Masses

- Infantile Hemangioma
  - Most common tumors of infancy
  - Around 90% resolve completely by 9 years of age
  - Highly proliferative, hyperplastic endothelial cells
  - Presents as a small lesion that undergo rapid proliferation in the first 12-18 months of life
  - Phases
    - Rapid proliferative phase
    - Phase of involution

Management

- Indications
  - Function-threatening lesion (ocular, ear, nasal)
  - Life-threatening lesion (airway)
  - Cosmetically disfiguring
  - Associated with ulcerations and bleeding

- Treatment Options
  - Oral propranolol
  - Laser treatment
  - Excision

Management

- Oral Propranolol
  - Reduction in size and discoloration of hemangiomas
  - Dosage: 1-3 mg/kg/day for around 6-10 months
  - Response rate of 98%
- Contraindications for propranolol therapy
  - Cardiogenic shock
  - Sinus bradycardia
  - Hypotension
  - Greater than first-degree heart block
  - Heart failure
  - Bronchial asthma
  - Hypersensitivity to propranolol chloride

JOURNAL REPORT

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Analysis of factors affecting the therapeutic effect of propranolol for infantile haemangioma of the head and neck

Jian-Yong Dong[1,2], Jie-Xin Ning[3], Kai Li[4], Chao Liu[1], Xu-Xia Wang[2], Rong-Hui Li[2], Lin-Lin Yue[2], Ying-Ying Huang[1] & Shao-Hua Liu[1]

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Introduction

- Propranolol is generally effective for IHs on the head and neck 5, 6 . However, reports have indicated that propranolol is not effective for all IHs, with a failure rate as high as 10%.
- In their clinical experience of treating IHs with oral propranolol, the therapeutic response and treatment duration have varied widely according to the different locations of the lesions involving the head and neck.
- Expectations regarding the therapeutic response and treatment duration are extremely important for clinicians and the parental guardians of the infants.

Methods

- conducted in the Department of Oral and Maxillofacial Surgery of the Qilu Hospital, Shandong University, China from June 2009 to November 2016
- The inclusion criteria were as follows:
  - IHs diagnosed by a medical history and physical examination according to the International Society for the Study of Vascular Anomalies (ISSVA) Classification of Vascular Anomalies 8 and ultrasonographic or MRI examination
- The exclusion criteria were:
  - history or risk of asthma, reactive airway disease, impaired renal or liver function, heart defects or arrhythmias, hypotension, hypersensitivity to propranolol, and lesions involving other regions in addition to the head and neck.

- All infants were administered oral propranolol in two divided doses (at 9 am and 2 pm). The initial dosage was determined by the infant age (1–3 months, 1 mg/kg/day; 4–12 months, 1.5 mg/kg/day). All infants underwent electrocardiographic monitoring 30 min prior to the medication administration and 30 min and 60 min after medication delivery during the first three days.
- If well tolerated over 2 to 3 days of observation, the dose was increased up to 2.0 mg/kg/day prior to hospital discharge, after which the patient was followed-up at an outpatient clinic every 2 months.

Results

- A total of 169 infants with head and neck IHs were enrolled in this study. Among the infants, 66 (39%) were male and 103 (61%) were female. Regarding type, mixed haemangioma was predominant, observed in 130 infants, whereas 21 tumours were deep and the remaining 18 were superficial. The most frequently involved head and neck sites were the parotid and perioral regions.

Therapeutic effect of oral propranolol

- All infants exhibited immediate IH colour lightening, reduced tumour growth rates and obvious softening in texture during hospitalization. Clinical response (grades III + IV) regression rates were observed in **97.63%** of the infants at the end of treatment at a dose of 2.0 mg/kg/ day. The average treatment duration was **9.99 months (2–24 months).**

- The results of the therapeutic response evaluations ***6 months*** after treatment initiation were as follows: grade I in 4 infants (2.37%), grade II in 10 infants (5.92%), grade III in 37 infants (21.89%), and grade IV in 118 infants (69.82%). ***The clinical response rate was 91.72%.***

- An analysis by age at treatment initiation revealed that the infants in whom treatment was initiated earlier than 3 months of age had the poorest therapeutic responses and longest treatment durations. This group demonstrated an 84.93% clinical response rate and average treatment duration of 10.58 months.
- In contrast, the group aged 4–6 months had a 98.48% clinical response rate while the treatment duration for the group aged 7–9 months was 8.59 months.

- haemangioma type, deep lesions had a superior therapeutic response (95.45%) than mixed (90.77%) and superficial lesions (94.44%), which, although interesting, were not significant findings (p = 0.716)
- The location of the haemangioma had a significant impact on the therapeutic response (p = 0.020). Although the therapeutic response of parotid, periorbital, cheek, neck and multiple lesions reached 100%, perinasal (72.22%) and forehead (71.43%) lesions exhibited a poor response to propranolol.

Characteristic	Number	Percentage
Gender (n)		
Male	66	39.05%
Female	103	60.95%
Age at initiation of treatment (n)		
1–3 months	73	43.20%
4–6 months	66	39.05%
7–9 months	22	13.02%
10–12 months	8	4.73%
Average (months)	3.85	
Type of IH (n)		
Superficial	18	10.65%
Deep	21	12.43%
Mixed	130	76.92%
Location of IH (n)		
Parotid	26	15.38%
Perioral	24	14.20%
Periorbital	17	10.06%
Perinasal	18	10.65%
Oral mucosa	16	9.47%
Cheek	12	7.10%
Cranium	13	7.69%
Periauricular	12	7.10%
Forehead	7	4.14%
Neck	5	2.96%
Zygoma	2	1.18%
Occiput	1	0.59%
Multiple	16	9.47%

	Clinical response			Treatment duration	
	III + IV	Rate	p-value	$\overline{X} \pm S$ (months)	p-value
Age (months)			0.030		0.375
1–3	62	84.93%		10.58 ± 4.55	
4–6	65	98.48%		9.89 ± 4.97	
7–9	21	95.45%		8.59 ± 4.97	
10–12	7	87.50%		9.25 ± 4.61	
Type			0.716		0.033
Superficial	17	94.44%		10.50 ± 5.01	
Deep	20	95.24%		12.43 ± 3.99	
Mixed	118	90.77%		9.52 ± 4.79	
Location			0.020		0.284
Parotid	26	100.00%		10.92 ± 4.49	
Perioral	22	91.67%		10.21 ± 4.84	
Periorbital	17	100.00%		9.06 ± 5.67	
Perinasal	13	72.22%		9.83 ± 4.07	
Oral mucosa	15	93.75%		11.56 ± 5.21	
Cheek	12	100.00%		10.50 ± 4.94	
Cranium	11	84.62%		6.77 ± 2.22	
Periauricular	10	83.33%		11.00 ± 6.19	
Forehead	5	71.43%		7.57 ± 3.06	
Neck	5	100.00%		11.60 ± 3.0	
Zygoma	2	100.00%		8, 12	
Occiput	1	100.00%		4	
Multiple	16	100.00%		10.13 ± 4.39	
Total	155	91.72%		9.99 ± 4.82	

Table 2. The infantile haemangioma therapeutic response and treatment duration.

- Lesion location was a significant factor affecting the therapeutic response of IHs to propranolol in this study.
- In a recent study on pharmacological therapies for IHs, drug treatments for parotid region lesions were reportedly the most efficacious, whereas the least efficacious responses were observed with treatments of the lip region. In our cohort, better responses were observed for haemangiomas of the parotid, periorbital, cheek and neck regions.
- while those that are not located in cosmetically sensitive areas may be treated with surgery

- Investigators have observed that children who start treatment earlier have better responses than older children.
- In this study, age had a significant impact on the IH treatment duration. The group aged 4–6 months had a higher clinical response rate than the other age groups. The youngest age group (1–3 months) had a poor clinical response, in contrast to previously published results. Additionally, they observed that the younger age groups (1–9 months) required lengthier treatments.

- The lesions in children who are begun on treatment before 3 months of age may still be in the proliferative phase. Conversely, the lesions in older children may be in the involutional phase. These observations may explain why the younger infants in our study had longer treatment durations and relatively poorer responses. Previous results have also demonstrated that younger infants require longer treatment than older infants.

- IHs are classified into superficial, deep and mixed types according to the depth of the lesions. In this study, deep lesions required significantly lengthier treatments. Because deeper lesions are consistently larger and and have a longer proliferative period 19 , they always require a longer treatment duration. The lesion type had no significant effect on the therapeutic response rates.

PLAN

PD 6/F
Grand Rounds
June 27, 2019

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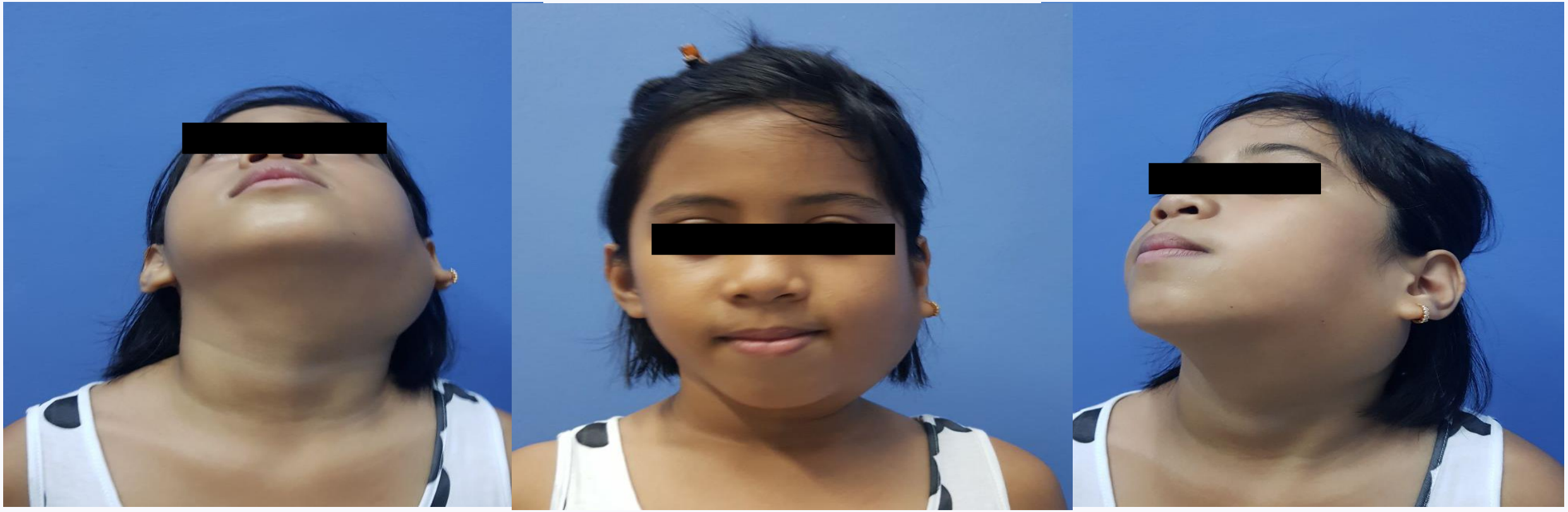
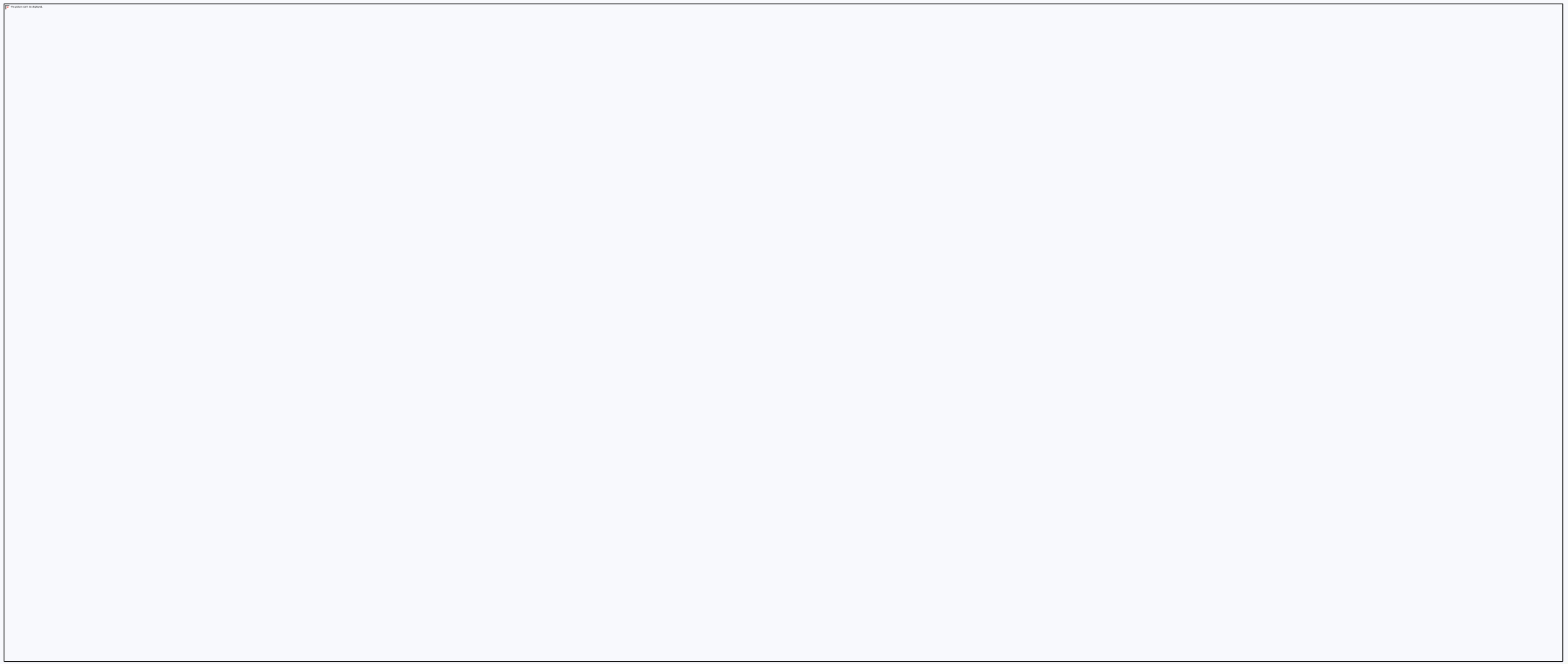
PHILIPPINE GENERAL HOSPITAL

Background

- PD
- 6/F
- Puerto Princesa, Palawan
- 4 year history of gradually enlarging submandibular mass
- (-) dyspnea,(-) dysphagia, (-) dysphonia



PE of the Oral Cavity

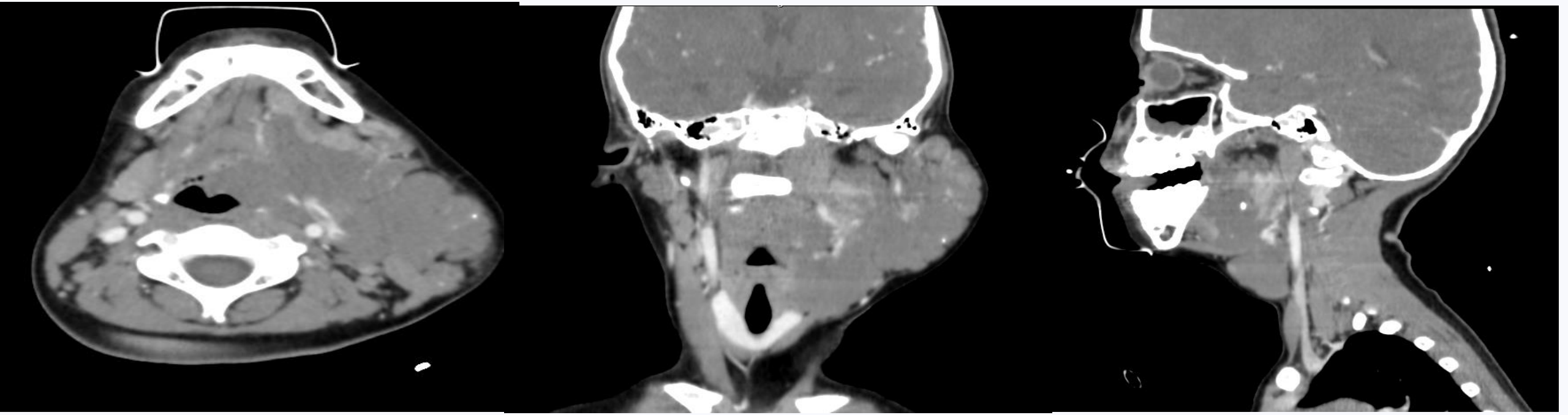


Scoping

Laboratory Tests

- FNAB (3/6/17, Puerto Princesa)
  - Cytomorphologic features suggestive of a benign neoplasm of which Hemangioma is primarily considered

CT Scan



Assessment

- Hemangioma, left parapharyngeal area

Differentiation of vascular tumours and malformations

Differentiation	Vascular tumours			Vascular malformations
	Infantile haemangioma	Congenital haemangioma	Kaposiform hemangioendothelioma; tufted angioma	
Presentation	Absent or small at birth	Present at birth—commonly large	Present before age of 5 years	Present at birth
Growth	Rapid growth during infancy	No growth	Slow growth during childhood; hemangioendothelioma can be locally aggressive	Proportional to growth of child
Involution	Involution through childhood (90% by 9 years)	Rapid involution (RICH) within first year of life; or non-involuting (NICH)	No involution	No spontaneous regression
Lesion	Solid lesion	Solid lesion	Solid lesion	Lesion comprises dysplastic vessels, spaces or channels

RICH, rapidly involuting congenital haemangioma; NICH, non-involuting congenital haemangioma.

Infantile Hemangioma

- most common tumors of infancy, affecting between 5% and 10% of the Caucasian population, with 60% being located in the head and neck
- undergo a rapid proliferative period lasting months during infancy, followed by a longer period of gradual involution throughout childhood. Up to 90% resolve completely by the age of 9 years.

Mahady K, et al. Vascular anomalies of the head and neck in children. Quantitative Imaging in Mediciine and Surgery 5 (6) 886-897. December 2015.

Infantile Hemangioma

- composed of highly proliferative hyperplastic endothelial cells and the majority cause no clinical issue, require no investigation and can be left alone to involute with time
- Some lesions of the head and neck cause disturbance of the visual axis or airway compromise due to mass effect and therefore require early intervention.

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Infantile Hemangioma

- Propranolol
- Sclerotherapy
- Laser Therapy
- Surgery

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- Surgical Excision
  - operative blood loss
  - incomplete excision
  - disfigurement
  - recurrence

TREATMENT GUIDELINE FOR HEMANGIOMAS AND VASCULAR MALFORMATIONS OF THE HEAD AND NECK

Jia Wei Zheng, DDS, MD,[1] Qin Zhou, MS,[1] Xiu Juan Yang, MS,[1] Yan An Wang, DDS, MD,[1] Xin Dong Fan, DDS, MD,[1] Guo Yu Zhou, DDS, MD,[1] Zhi Yuan Zhang, DDS, MD,[1] James Y. Suen, MD[2]

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[2] Department of Otolaryngology - Head & Neck Surgery, University of Arkansas for Medical Sciences, 4301 West Markham, #543, Little Rock, AR 72205-1799

Laser

- indicated for treatment of superficial proliferating hemangiomas
- advantage: simplicity of use, can be repeated at an interval of 2 to 4 weeks
- Neodymium: yttrium-aluminum-garnet (Nd:YAG) laser
  - wavelength of 1064 nm and penetration depth of up to 5.0 mm
  - suitable for larger and up to 2 cm deep hemangiomas

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Haemangiomas and venous malformations of the head and neck: A retrospective analysis of endovascular management in 358 patients

Kumbhar Sachin, Saraf Rashmi, Shrivastava Manish, Wuppalapati Siddhartha, and Limaye Uday

- retrospective review of records and clinical photographs of 358 patients over a 15 year period
- Pre- and post-treatment photographs were compared and outcomes categorized: complete resolution (>90% reduction), considerable reduction (60-90% reduction), partial reduction (20-60% reduction) and no change (<20% reduction)

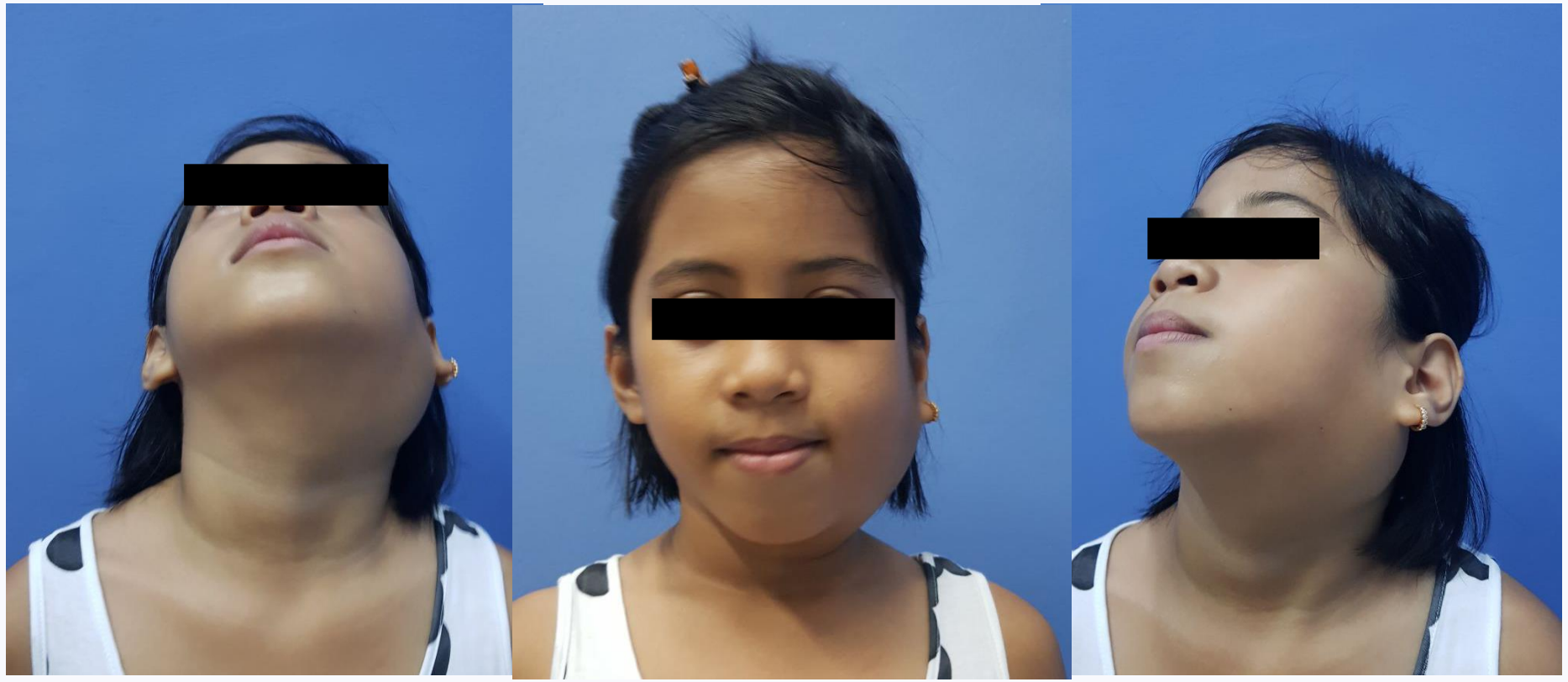
- **Proliferative phase**: trans-arterial embolization using Polyvinyl Alcohol and Bleomycin
- **Involuting phase**: percutaneous sclerotherapy using Bleomycin and Sodium Tetradesyl Sulfate
- Multiple sessions of sclerotherapy were performed at an interval of 4 weeks.
- Treatment was stopped when >90% reduction of the swelling was achieved or if no change occurred over three treatment sessions.

- **Result:** Complete resolution of the lesion was seen in 30% of the patients while 50% patients showed considerable reduction of the swelling.
- **Conclusion:** sclerotherapy is an effective and safe treatment modality for these lesions and may be considered as the primary modality in the treatment of these challenging lesions

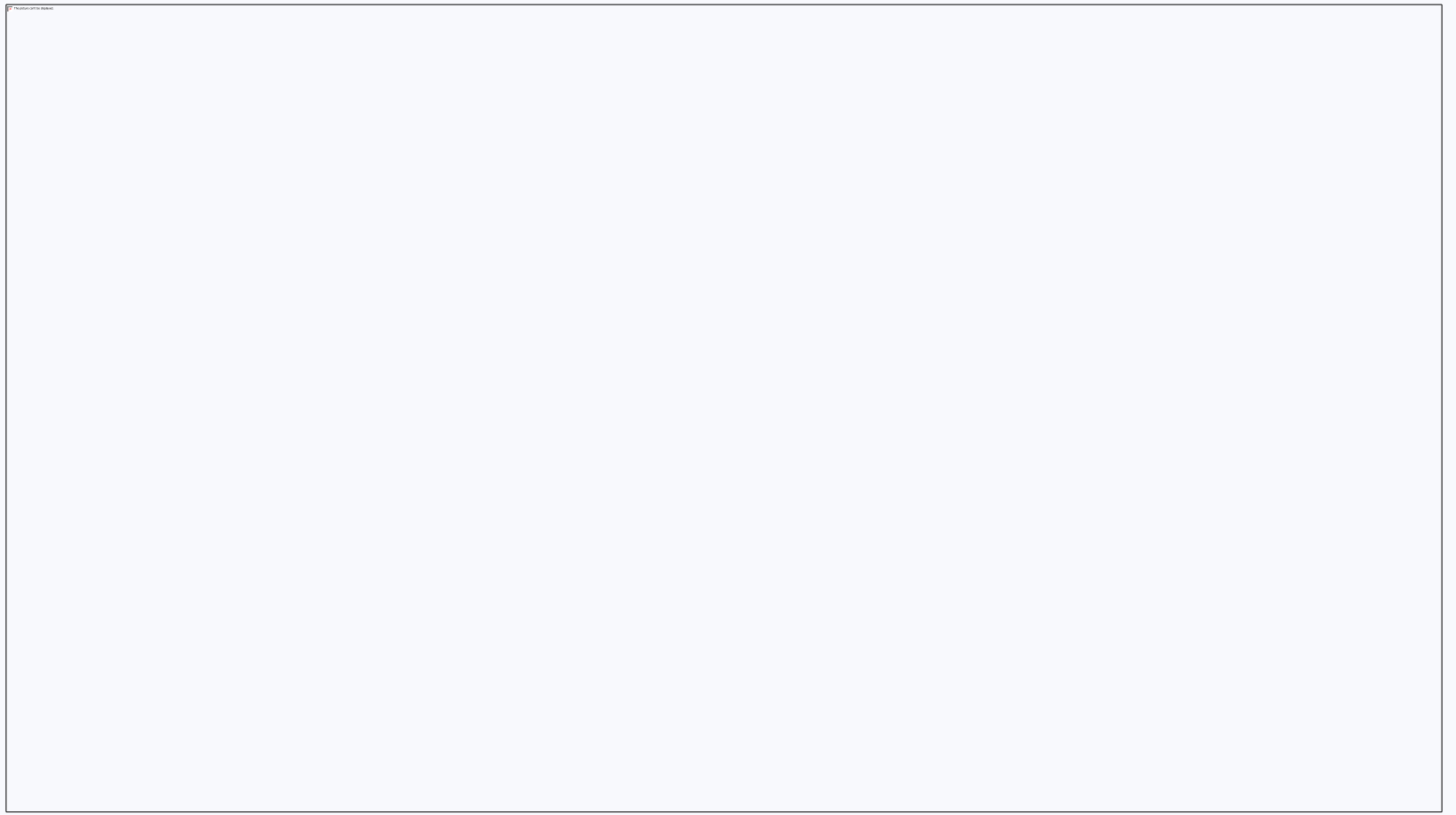
PLAN

Background

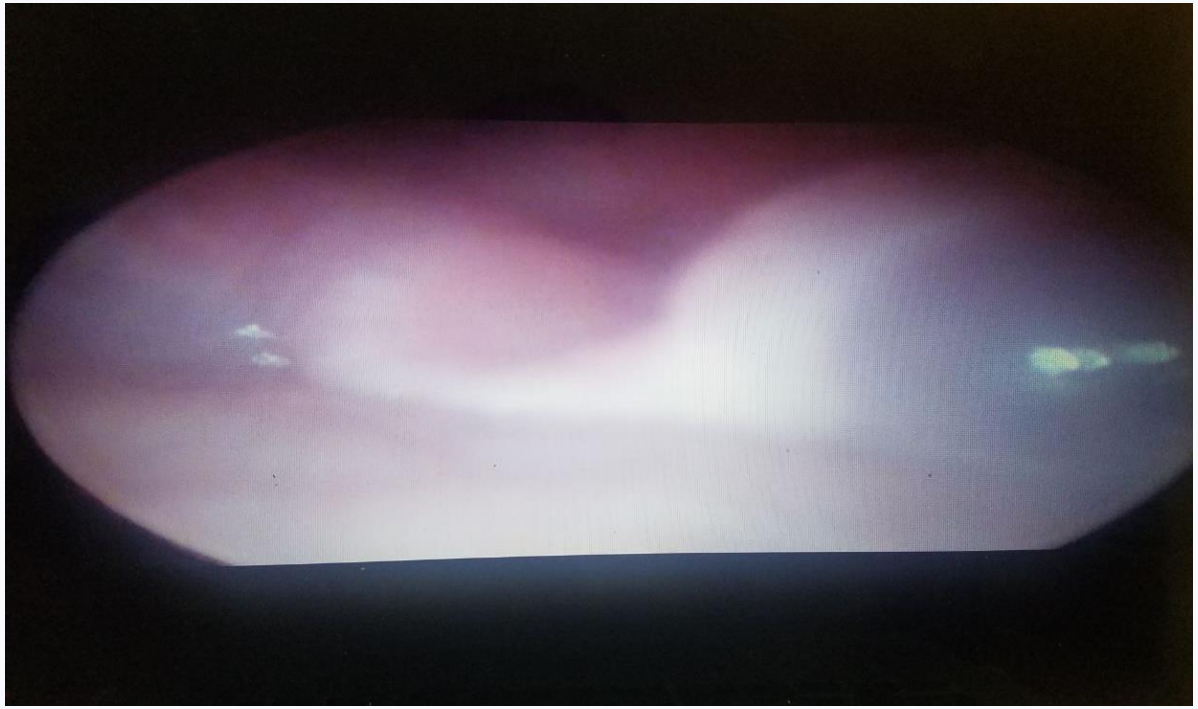
- PD
- 6/F
- Puerto Princesa, Palawan
- 4 year history of gradually enlarging submandibular mass
- (-) dyspnea,(-) dysphagia, (-) dysphonia



PE of the Oral Cavity



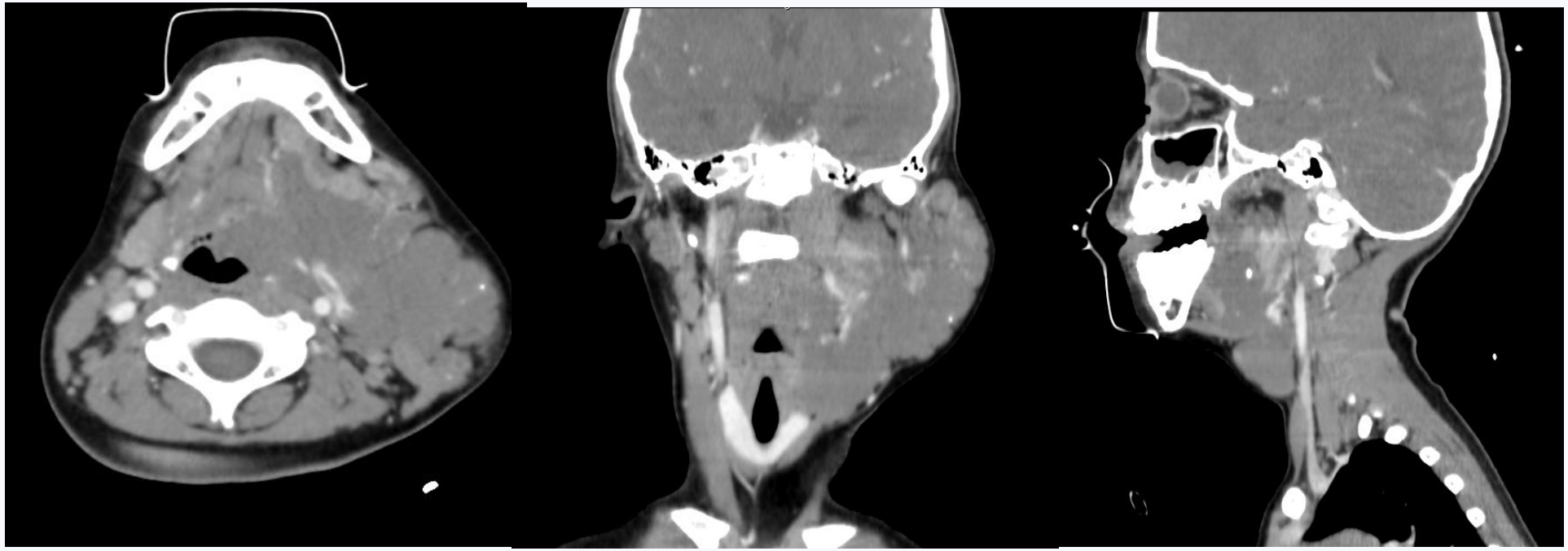
Scoping



Laboratory Tests

- FNAB (3/6/17, Puerto Princesa)
  - Cytomorphologic features suggestive of a benign neoplasm of which Hemangioma is primarily considered

CT Scan



Assessment

- Hemangioma, left parapharyngeal area

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PLAN

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Plan

- Sclerotherapy
- Close follow-up
- Possible surgical excision

THANK YOU

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