“PEARLS IN OTOLARYNGOLOGY”

by

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Objective:

To familiarize Physician Associates with

- Key concepts
- Otolaryngology disorders
- Likely to present in a primary care setting
37 y.o. female presents to the ED complaining that, for the past 2 days, she gets “very dizzy” when she rolls in bed (the room spins around her).

- Feeling lasts 1-2 minutes.
- She feels nauseous, no vomiting.
- Hearing is unaffected
- No personal or family history of migraines.
- No medications.
- Ear exam is normal
QUESTION 1

What is the most likely diagnosis?

A. Laberinthitis
B. Benign paroxysmal vertigo
C. Vertebro-basilar insufficiency
D. Acoustic neuroma
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A. Laberinthyitis  
B. Benign paroxysmal vertigo  
C. Vertebro-basilar insufficiency  
D. Acoustic neuroma
Vertigo: “Quick” Differential Diagnosis

<table>
<thead>
<tr>
<th>Duration of Vertigo</th>
<th>Auditory Symptoms Present</th>
<th>Auditory Symptoms Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seconds</td>
<td>Perilymphatic Fistula</td>
<td>BPPV, Vertebrobasilar insufficiency, Cervical vertigo</td>
</tr>
<tr>
<td>Hours</td>
<td>Endolymphatic hydrops (Meniere’s disease)</td>
<td>Recurrent vestibulopathy, Vestibular migraine</td>
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<tr>
<td>Days</td>
<td>Labyrinthitis, Labyrinthine concussion</td>
<td>Vestibular neuronitis</td>
</tr>
<tr>
<td>Months</td>
<td>Acoustic neuroma, Ototoxicity</td>
<td>Multiple sclerosis, Cerebellar degeneration</td>
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</table>
QUESTION 2

What is the best way to confirm the diagnosis?

A. CBC with differential
B. Audiogram
C. ENG (Electronystagmogram)
D. Dix-Hallpike maneuver
E. MRI of the brain.
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B. Audiogram
C. ENG (Electronystagmogram)
D. Dix-Hallpike maneuver
E. MRI of the brain.
The Dix Hallpike Maneuver
## Key Recommendations for Practice

| Dix-Hallpike maneuver to diagnose BPPV. | PPV 83 %  
|                                           | NPV 52 %  
| NO laboratory tests to initially identify the etiology of dizziness | Identify etiology of dizziness: <1%  
| Use MRI when neuroimaging is needed. | MRI superior to CT to evaluate posterior fossa |
CLINICAL SITUATION

12 y.o. male brought in because of severe pain in the right ear, which has gradually become worse for the past 3 days.

- The ear feels full,
- Scant foul smelling discharge
- No disequilibrium or nausea.
- Otherwise healthy.
- Has been swimming for the past month in the neighborhood pool.
- Afebrile.
QUESTION 3

What is the most important step in this patient’s management?

A. Clean the EAC and insert a wick.
B. Change the pH of the EAC
C. Topical antibiotics to cover Pseudomona
D. Topical steroids
E. Oral antibiotics to cover Pseudomona.
QUESTION 3

What is the most important step in this patient’s management?

A. Clean the EAC and insert a wick.
B. Increase the pH of the EAC
C. Topical antibiotics to cover Pseudomonas
D. Topical steroids
E. Oral antibiotics to cover Pseudomonas.
Key Recommendations for Practice
CLINICAL SITUATION

A 25 year old female presents to your clinic for what she calls “a sinus infection” that she has had for 2 weeks.
QUESTION 4

What are the three symptoms she must have to verify the diagnosis of acute rhino-sinusitis?

A. allergies, nasal congestion, facial pressure
B. headache, nasal congestion and purulent secretions
C. nasal congestion, facial pressure and purulent secretions
A. allergies, headache, purulent secretions.
QUESTION 4

What are the three symptoms she must have to verify the diagnosis of acute rhino-sinusitis?

A. allergies, nasal congestion, facial pressure
B. headache, nasal congestion and purulent secretions
C. nasal congestion, facial pressure and purulent secretions

A. allergies, headache, purulent secretions.
### Purulent nasal discharge
- Cloudy or colored, reported by the patient or observed on physical exam

### Nasal obstruction
- Congestion, blockage, or stuffiness

### Facial pain/pressure/fullness
- Involving anterior face or periorbital region, or headache that is localized or diffuse

Persist without evidence of improvement for at least 10 days beyond the onset of upper respiratory symptoms
CLINICAL SITUATION

18 month old boy brought in to the ED by his mother, who reports hearing her child coughing and choking in the next room; she ran in and found him blue and barely breathing. She was in the next room and did not see what happened. She picked him up and slapped him on the back and he began to breathe again and cry loudly. On examination, the child seems to be breathing well, but is fussy, cries and coughs when you try to examine him.
QUESTION 5

What is the appropriate next step in management?

A. Admit for observation only with oxygen supplementation as needed.
B. Chest x-rays in the radiology department to look for a FB.
C. CT scan of the chest in the radiology department to look for a FB that may not be apparent on x-ray.
D. Consult to consider urgent laryngoscopy and bronchoscopy.
QUESTION 5

What is the appropriate next step in management?

A. Admit for observation only with oxygen supplementation as needed.
B. Chest x-rays in the radiology department to look for a FB.
C. CT scan of the chest in the radiology department to look for a FB that may not be apparent on x-ray.
D. Consult to consider urgent laryngoscopy and bronchoscopy.
**Inhaled Foreign Bodies**

- Airway foreign bodies are always managed on an emergent basis.

- The initial symptoms and signs of laryngeal / bronchial foreign body can be severe, including cyanosis, respiratory distress and even respiratory arrest.
Location of Impacted Foreign Bodies

- Larynx 1-5%
- Trachea 5-15%
- L Main Bronchus 30-35%
- R Main Bronchus 30-40%
- L Lobar Bronchus 5-15%
- R Lobar Bronchus 5-15%
Foreign Body in the Airway
42 year old accountant comes in complaining of:

- Soreness of throat on the right side of about 2 months duration
- Right sided otalgia.
- No difficulty swallowing
- No fever or malaise.
- Does not smoke tobacco, occasionally smokes marihuana. Drinks socially.
What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Nystatin swish and swallow for 10 days
E. Biopsy of the tonsil
What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Nystatin swish and swallow for 10 days
E. Biopsy of the tonsil
Head and Neck Neoplasms: Current Trends

- Risk Factors
  - Sexual behavior

HPV Related Tumors
- Male predominance
- Younger patients
- Fewer traditional risk factors
- Sexual behavior as risk factor
  - Multiple sexual partners (>6)
  - Higher rates of oro-genital contact with multiple partners
Clinical Situation

31 y. o. healthy, office worker

- Asymptomatic neck mass present for about 2 years
- No history of fever, night sweat, weight loss.
- Does not smoke or drink

- Soft, non-tender, fluctuant mass.
- No other abnormalities
What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Ultrasound of the neck
E. Fine needle aspiration biopsy
Question 7

What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Ultrasound of the neck
E. Fine needle aspiration biopsy
“Branchial Cleft” Cyst

- 2nd Arch Anomaly?
- Commonly noted in 2nd-3rd decades.
- Presents
  - lateral neck mass after URI
  - recurrent infections → rarely a sinus tract
- Consistent location: anterior to the SCM muscle
- Diagnosis: US
- Treatment: surgical
63 y. o. healthy, oil field worker

- Asymptomatic neck mass present for about 2 months
- No history of fever, night sweat, weight loss.
- Smokes 1ppd/ 40 years. Drinks 1 -2 beers/day.
- ON exam: # cm, rubbery mass in right upper jugular region
What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Ultrasound of the neck
E. Fine needle aspiration biopsy
What is the appropriate next step in his management?

A. Throat swab/culture for Streptococcus
B. Mono spot test
C. Amoxicillin for 2 weeks
D. Ultrasound of the neck
E. Fine needle aspiration biopsy
NECK MASS: FNA

- Easily performed in the outpatient setting
- Will not interfere with subsequent surgical treatment.
- May provide a specimen for culture.
- May distinguish cystic from solid masses.
<p>| | |</p>
<table>
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<tbody>
<tr>
<td>Specificity</td>
<td>94-99%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>92-98%</td>
</tr>
<tr>
<td>Interobserver Variability</td>
<td>± 8%</td>
</tr>
</tbody>
</table>
Key Recommendations for Practice
Clinical Situation

45 y. o. healthy female office worker

- Asymptomatic thyroid mass noted by you during a routine physical exam.
- No symptoms of hyper or hypothyroidism.
- No history of previous radiation to the neck
- No family history of thyroid problems
Thyroid Cancer: Incidence
## Thyroid Nodule: Prevalence

<table>
<thead>
<tr>
<th>Method</th>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palpation</td>
<td>2 - 6%</td>
<td>1.79%</td>
</tr>
<tr>
<td>Autopsy</td>
<td>8 - 65%</td>
<td></td>
</tr>
</tbody>
</table>

Dean Ds. *Best Pract Res Clin Endocrinol Metab* 22: 901, 200
Rallison Mlet al. *JAMA* 233:1069, 1975
# Thyroid Nodule: Prevalence

<table>
<thead>
<tr>
<th>Imaging Modality</th>
<th>Prevalence</th>
<th>Risk of Malignancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT</td>
<td>16%</td>
<td>3.9 – 11.3 %</td>
</tr>
<tr>
<td>PET</td>
<td>1.6%</td>
<td>30 – 50%</td>
</tr>
<tr>
<td>US</td>
<td><strong>Adult: 40 - 67%</strong></td>
<td><strong>2 – 15%</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Child: 0.2-5.4%</strong></td>
<td><strong>25% (?)</strong></td>
</tr>
</tbody>
</table>
Patient with a Thyroid Nodule
> 1 – 1.5 cm

History

- Family History of thyroid cancer
- Previous radiation to H&N
- Total body irradiation
- Rapid growth
- Hoarseness
- Diarrhea
- Hemoptyisis
Patient with a Thyroid Nodule > 1 – 1.5 cm

- Fixation of the nodule
- Ipsilateral adenopathy
- Vocal cord paralysis
What is the appropriate next step in her management?

A. Observation and revaluation in 3 months
B. Obtain I131 scan
C. Obtain TSH level
D. Obtain an Ultrasound
What is the appropriate next step in his management?

A. Observation and revaluation in 3 months  
B. Obtain I131 scan  
C. Obtain TSH level  
D. Obtain an Ultrasound
The TSH level is normal.

What is the appropriate next step before referring her to an endocrinologist or a surgeon?

A. Observation and revaluation in 3 months  
B. Obtain I131 scan  
C. Obtain an Ultrasound  
D. Obtain a fine needle aspiration
The TSH level is normal.
What is the appropriate next step before referring her to endocrinologist or a surgeon?

A. Observation and revaluation in 3 months
B. Obtain I131 scan
C. Obtain an Ultrasound
D. Obtain a fine needle aspiration
US in the Evaluation of a Thyroid Nodule

- Confirmation of the palpable nodule
- Detection of additional non-palpable nodules
- Identification of US characteristics of the nodule
- Detection of enlarged nodes in central and lateral compartments of the neck
Key Recommendations for Practice
Patient with a Thyroid Nodule: > 1 – 1.5 cm

1. TSH Level
   - Low
     - I 123 Scan
   - NORMAL / High
     - Diagnostic US

2. History
   - Physical Exam
Then What?

FNA

Non diagnostic/unsatisfactory
Benign
Atypia Undetermined Significance
Follicular Neoplasm
Suspicious for Malignancy
Malignant

1 - 4%
0 - 3%
5 - 15%
15 - 30%
60 - 75%
97 - 99%