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Basic ENT Problems 101

Acute Otitis Media

Signs/Sx: Ear pain, fever, possible otorrhea (if this occurs, pain usually gets better), hearing loss; rarely-- facial weakness/paralysis

Exam: Red, bulging TM that is non-mobile or purulent, possibly bloody, discharge in EAC; look for **facial weakness** as this is a **surgical emergency**

✔✔ Be sure to use a pneumotoscope when evaluating TMs as a TM can
✔✔ become reddened from crying, laughing, etc. and appear inflamed when it is ✔✔ not !!

Tx: Amox/Erythromycin/Septra/Bactrim are good first line drugs; if no better in 48 to 72 hrs, then switch to abx with better coverage for Staph, M. cat,
H. flu such as augmented penicillins, erythro/sulfa (Pediazole), cefuroxime axetil. Remember that Suprax does not cover Staph!

If child is immunosuppressed or very sick/not responding, then consider tympanocentesis for Cx with/without placement of PE tube(s).

If the ear is draining pus, clean up as much as you can by gently using a Qtip, start oral abx, and topical otic abx suspension TID/QID(Cortisporin or Colimycin). **Remember to use otic suspensions NOT solutions as solutions are too acidic and will damage the middle ear mucosa-- not to mention hurt like heck!!** Place the patient on strict water precautions-- no water in the ear. Use a cotton ball rubbed with vaseline or Silly Putty. No water to be permitted in ear under **ANY** circumstances

until the TM is fully healed.

Otitis Media with Effusion

Signs/Sx: This can be a natural sequela to AOM. After an AOM subsides, a nonpurulent effusion can persist for up to ninety days. It can also be a sign of primary eustachian tube dysfunction (craniofacial abnormalities, allergy, scarring, etc.). Main sx are hearing loss, feeling of stuffiness, pain is rare, fever rare

Exam: TM retracted, dull, totally nonmobile. May see air bubbles or air fluid levels. **Pneumotoscopy is the most important part of exam.** Weber lateralizes to affected ear. Rinne testing reveals air conduction > bone conduction. Can do tympanogram if unsure. Audiometry to dcoument hearing loss.

Tx: In the US, abx therapy is the mainstay. Gantrisin, Septra/Bactrim, Amox all good choices-- Amox and Gantrisin probably safest. Risks of using steroids outweigh benefits so probably shouldn't use. PE tubes if effusion lasts 90 days or more or sooner if child is speech delayed.

✔✔ Acute otitis media in the presence of functioning PE tubes cannot ✔✔ be said to exist without the presence of otorrhea

Swimmer's Ear (Otitis Externa)

Signs/Sx: Ear pain, canal swelling and redness, possible otorrhea/bleeding, hearing loss.

✔✔ Can become a life threatening infection in diabetics ✔✔ or other immunosuppressed patients.

Exam: Red swollen canal, possible granulation tissue, positive tragal sign. May not see TM because of swelling.

Tx: Clean ear of as much debris as possible with Qtip or Calgiswab. Do not irrigate. Instill Cortisporin otic suspension if possible, but if needed place a Merocel or cotton wick to help drops to penetrate. Keep on drops 10 days with strict water precautions. Oral antibiotics not helpful unless they cover *Pseudomonas*.

TM Rupture and Perforation

Signs/Sx: Ear can hurt if traumatic or painless (usually) if the sequelae of middle ear infection. Hearing loss common. If traumatic and ossicles have been affected, vertigo can be present.

Exam: Blood and pus may be seen in canal. Can usually see perforation in TM. Will see nystagmus if ossicles

damaged and patient vertiginous.

Tx: If due to middle ear infection, start oral and topical antibiotics (Cortisporin suspension). May want to treat a traumatic perforation topically but oral antibiotic prophylaxis likely not needed. Strict water precautions mandatory. Will eventually need audiogram to rule out sensorineural loss when ear is stable.

Epistaxis

Signs/Sx: Bleeding from the nose and/or mouth. Majority of bleeding will come from anterior septum. Posterior bleeding can be life threatening but fortunately is uncommon.

Exam: Look at anterior septum in Little's/Kiesselbach's area for bleeding. Also look at the anterior attachments of the turbinates. Have patient blow nose or use suction to clear nose of clots if needed. If anterior nasal cavity remains clear and bleeding continues down posterior pharyngeal wall, posterior bleeding is likely. This will need referral for nasal exploration or posterior packing. Would not try posterior packing on your own unless you are very experienced with this technique as it is quite damaging to the nasal mucosa and will make further evaluation difficult.

Tx: Anterior

Use 4% cocaine or 50/50 mixture of Pontocaine/ Neosynephrine on cotton pledgets to slow/stop bleeding. Can use 1% xylocaine/ 1:100K epinephrine to inject area around bleeding to help with hemostasis. Try to use packing (oxycel, surgicel) as opposed to cautery. If must use cautery, cauterize *around* bleeding site rather than on it directly and keep it minimal or you will have more problems with bleeding when the eschar comes away in 3-4 days. Also can cause septal perforation by over-aggressive cautery. Place nostril "at rest" by placing cotton ball in vestibule.

Posterior

Needs otolaryngologic evaluation/referral. If emergent, will need to place posterior packing on your own, but would avoid this if possible (as above). Refer to otolaryngologist.

Facial Nerve Disorders

Signs/Sx: Onset may be gradual or rapid, may be associated with ear/facial pain/numbness, may drool, eye may feel dry

or have a foreign body sensation. May also be result of head trauma with associated basilar skull fracture. May be associated with hearing loss, ear infection, cholesteatoma, CP angle tumor, parotid tumor, facial zoster lesions. Loss of stapedial function makes sounds louder. Happens with fair incidence during pregnancy. Bilateral palsy should raise suspicion for Melkersson-Rosenthal syndrome or Lyme disease.

✔✔ **Bell’s palsy is a diagnosis of exclusion!!!**

Exam: Use finger pressure vertically in the midline on mouth with smiling and on forehead when raising eyebrows to get a good estimate of facial function by comparing from one side to the other. This technique isolates one side from the other for a better estimate of facial function.

✔✔ See the facial paralysis grading scale included to standardize your evaluation.

Do a good ear exam looking for infection, zoster lesions, cholesteatoma, CSF, trauma. Scan the other cranial nerves for involvement. Tuning fork testing will detect a hearing loss if present. Do a good neck exam to look for parotid tumor and zoster lesions. Examine eyes for signs of exposure keratitis or infection. If exam negative other than facial palsy, needs audiogram with acoustic reflex testing. CT or MR scanning likely indicated to rule out CP angle, facial nerve, and parotid tumors.

Tx: If exam negative other than facial palsy, onset has been recent and there are no contraindications (PUD, pregnancy, etc), a trial of prednisone with approximate dose of 60mg per day in divided doses with food is indicated until further evaluation can be done. All cases of facial palsy should probably be evaluated and managed by an otolaryngologist.

Vertigo

Signs/Sx: Vertigo is the **hallucination of motion** (usually circular/whirling in character) not lightheadedness or passing out. Inner ear disease is the usual cause, less commonly due to eigth nerve or brainstem lesions (these things are more likely associated with unsteadiness/dysequilibrium). Inner ear disease usually produces an episodic vertigo that can last seconds to days. Constant vertigo that does not change more likely due to a central lesion or a metabolic etiology. Important factors to investigate include duration, severity (central lesions are *less* severe than peripheral ones), and precipitating event (postural changes, pressure changes, changes in diet,

salt intake). Associated symptoms include hearing loss, otalgia, otorrhea, “fullness” in the ear. Symptoms **NOT** associated with an inner ear etiology include syncope/”black out” spells, loss of vision, irregular pulse, bowel/urinary incontinence, seizure activity. History of head trauma or nystagmus is important. **History is 80% of the diagnosis!**

Exam: Do good ear exam for infection/cholesteatoma then do a good head and neck exam. Check eyes for nystagmus. Scan all cranial nerves and general motor function. Check facial and trigeminal nerves specifically. Test balance and coordination (finger to nose,

rapid alternating movements, heel to shin, gait, tandem gait and stand, Romberg) as well as reflexes. May do caloric and Dix- Hallpike testing. Audiogram with site of lesion testing essential and ENG may be helpful. Brainstem audiometry may be needed to rule out acoustic tumor or multiple sclerosis (15-20% of MS patients may present with vertigo!). Lab exam should include CBC, ESR, P21 (hypothyroidism can cause vertigo), and FTA- ABS to rule out syphilis. If hypoglycemia/glucose intolerence a consideration, think about a glucose tolerence test. Consider CT or MR scanning to rule out CP angle tumor, central lesion, or MS.

Tx: <u>Acute Vertigo</u>

Vestibular suppression is the key. Valium 5-10mg IV over 3-5 minutes works well and can repeat in a few hours. Can continue 5mg PO TID to keep sx under control. Alternatively can use Phenergan 25mg per rectum or IM Q6hrs to control vertigo. Because of increased risk of dyskinesia, would not use Compazine. Anticholinergic agents (atropine, scopolamine, Antivert) can help but are usually not as effective and are fraught with increased side effects (blurred vision, inability to urinate, dry mouth). If requires admission to hospital, consultation with an otolaryngologist probably indicated.

<u>Chronic Vertigo</u>

Diagnose the disease process and treat accordingly.

DDX:

<u>Vestibular Neuronitis</u>

Acute onset, vertigo for 2-6 days, unsteadiness for weeks or months, preceded by URI, N/V. Nystagmus fast component to uninvolved ear. ENG abnormal and **hearing usually not involved**.

<u>Meniere's Disease</u>

Episodic vertigo, tinnitus, fluctuating hearing loss, "fullness" in ear.

Oval or Round Window Fistula
Hx of pressure change (sneeze, strain, SCUBA), sensorineural hearing loss, vertigo. Do a fistula test using pneumotoscope to change pressure in ear canal to see if can bring on sx.

Labyrinthitis
Vertigo **with** hearing loss-- acute or gradual onset.

Benign Paroxysmal Positional Vertigo
Vertigo on position change, latency of a few seconds prior to vertigo onset, vertigo fatigues on repetition, diseased ear is the one “down”.

Acoustic Neuroma
Unilateral sensorineural hearing loss, tinnitus, unsteadiness rather than vertigo, facial numbness/weakness.

Vetebral Basilar Insufficiency
Episodic vertigo sometimes brought on by postural hypotension, Stokes-Adams attacks, cervical spine disease, slurred speech, N/V, visual disturbance.

Multiple Sclerosis
15-20% present with vertigo, women in 3rd-4th decade, persists for weeks or months then may subside. Hearing loss and tinnitus are uncommon but can occur late. Look for other neuro sx-- Charcot's triad (nystagmus, scanning speech, intention tremor). Internuclear ophthalmoplegia is common. Brainstem audiometry is abnormal in 80%.