Pediatric Respiratory cases

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Respiratory Cases 3
URTI

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Orientation

- In the following clinically –based discussion You will be reviewing children , all coming to the general pediatric clinic .

Case 1

- 4 year old child ,previously healthy ,presented with his mother to the pediatric clinic with the following:
- Felt warm to touch
- Runny nose ,sneezing ,occasional cough

Q 1

- What are the important questions you should ask during history taking .
- What do you look for in PE ?

H.P.I

- Fever : was documented 37.8 (oral) ,relieved spontaneously without anti pyretics ,no chills or rigors
- Cough ;mild ,occasional ,not affecting sleep or appetite ,no SOB ,no wheeze .
- No history of sore throat ,ear pain
- No GI symptoms
- No arthalgia ,myalgia
- Good appetite , Good activity
- No skin rash
- Child active ,sleeps well , eats well

P/E

- General condition :looks well ,playful ,thriving well
- VS : temp afebrile at clinic 37 C

  RR 30,(Nl for age 22-34), Pulse rate 80 b/m(N 80-110)
- Nose: hyperemic nasal mucosa with seretions ,swollen erythematous turbinates ,normal throat and ear exam
- Chest :clear no added sounds
- Heart ,abdomen .skin all within normal

Q 2:

What are Clinical Investigations needed ?

None is needed

What is your diagnosis ?

Common Cold !
Rhinitis

What is your DDx

- 1-Nasal FB ; symptoms usually unilateral with purulent discharge due to secondary bacterial infections
- 2-Allergic rhinitis : symptoms prolonged ,with prominent itching ,sneezing
- 3-Acute bacterial sinusitis :persistence of rhinorrhea or cough > 10-14 days, Headache,facial pain, periorbital edema in adolescents

COLD or FLU?

Common Cold Vs Flu

- Common cold : symptoms confined to the nose :congestion ,sneezing , mild cough (most common cause :rhinovirus)
- Flu : associated with more fever, more systemic manifestations like : arthralgia ,myalgia ,chills rigors ,pneumonia (etiology : e.g Influenza)

What treatment does this child needs

- No specific treatment needed
- Symptomatic treatment :

- RHINORRHEA :
- 1st generation anti histamine
- Decongestant :> 2 years of age ,Topical;oxymetazoline or phenylphrine as intranasal drops or nasal spray.

- SORE THROAT: analgesia, cetaminophin .
- cough suppression not necessary, antihistamine is beneficial if cough is secondary to PND (post nasal drip)

Case 2

Case 2

- Another child comes to the clinic :
- He is 8 -years old ,complains of :
- nasal discharge
- Cough intermittent, day time cough sometimes triggered by lying supine during sleep .
- low grade fever, 2 days , intermittent responding well to antipyretics .

Q 1

- What are the important questions you should ask during history taking .

- What do you look for in PE ?

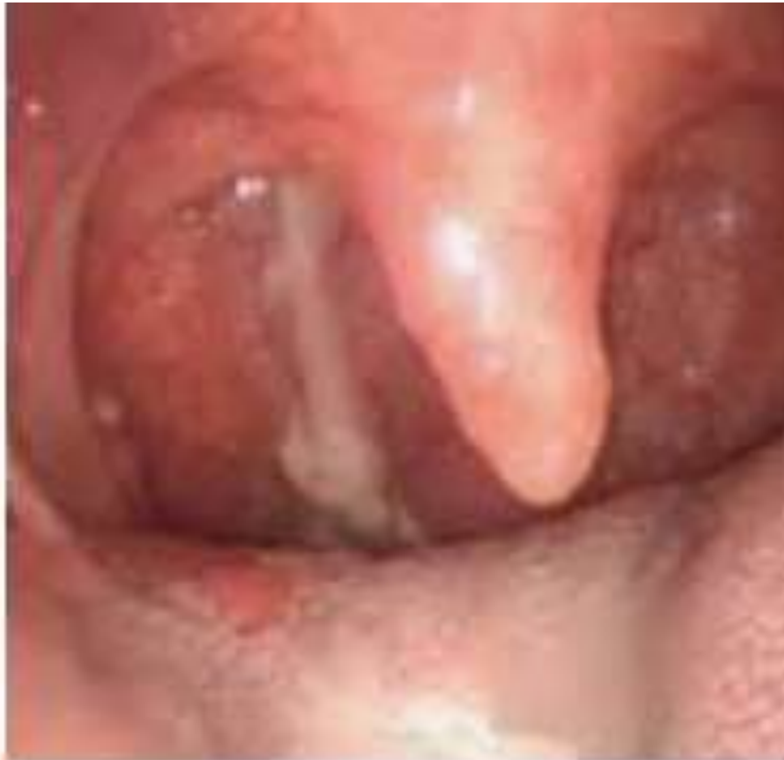
HPI :

- Fever ,documented 38 C , 2 days , intermittent responding well to antipyretics ,no chills nor rigors .
- Nasal discharge ,purulent , 2 weeks duration
- Cough :intermittent cough, wet ,more @ night but not interfering with sleep or activity
- No other significant sypmtoms

PE

- Childs looks well , vitals within normal except temperature of 38 C
- Thriving ,Growth parameters within normal
- ENT : mild erythema and swelling of nasal mucosa-discharge .
- Throat : Positive PND (post nasal drip) ,Ears: clear tympanic membranes
- Chest : clear , all rest of exam within normal

P/E :Post Nasal Drip



Q 2: What are Clinical Investigations needed ?

Answer

None is needed.

Unless suspecting complications or chronic.

What is your diagnosis ?

Acute Bacterial sinusitis

DDX

- Viral URTI :
- ALLERGIC RHINITIS : PE : pale-cobble stone mucosa, sneezing , itching ,allergic shiners ,
- NASAL FB

Diagnosis

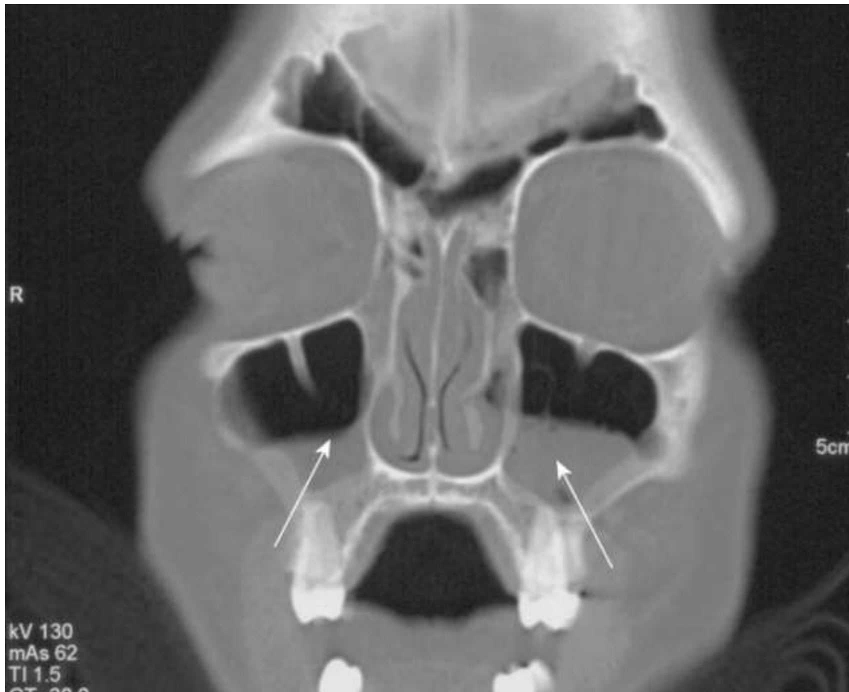
- *Dx is Based on history ; one of the following* :
- 1-persistant hx of RTI including cough ,nasal discharge for>10-15 days without improvement
- 2-OR severe symptoms ;temp.>39 *C and purulent nasal discharge for 3-4 days
- 3-Worsening URTI symptoms after initial improvement .

Investigations /Radiology

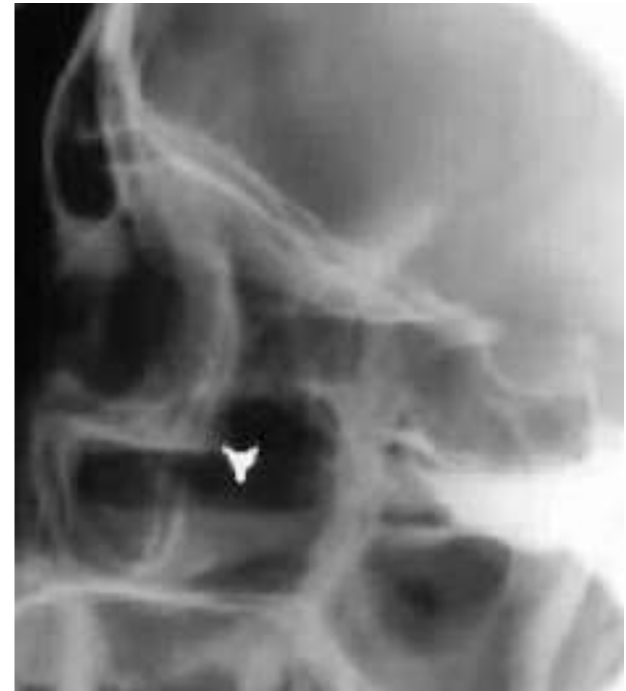
- If atypical presentation ,headache(rare in children) ,or chronic relapsing pan sinusitis :
- Plain film :thickening, air-fluid level
- CT sinuses : Gold standard ,usually if surgical intervention warranted

Air-fluid level in acute sinusitis

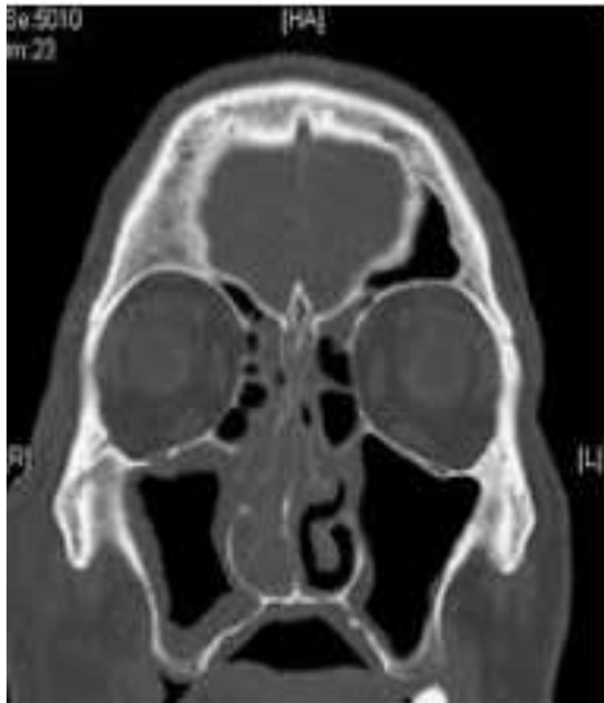
CT

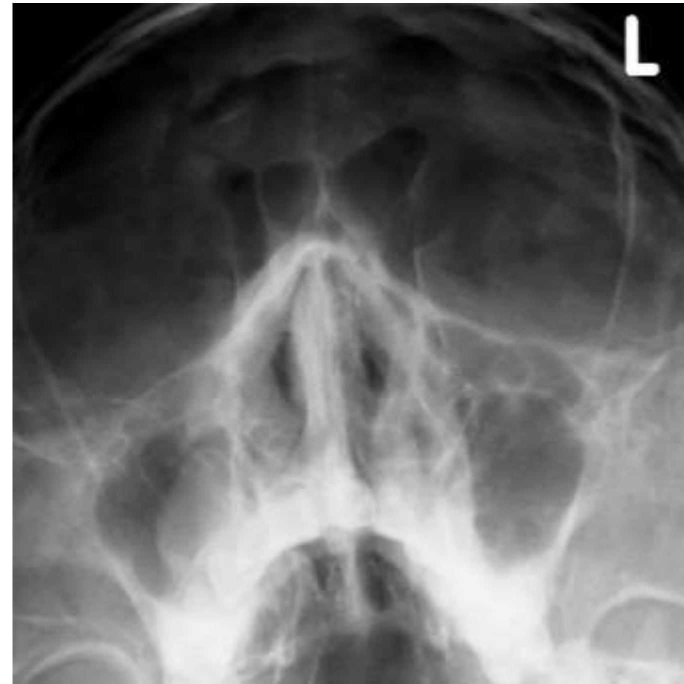


Plain film



Mucosal thickening in chronic sinusitis





What is the recommended treatment ?

Answer

- 1-Usually self limiting , no specific treatment needed
- 2-Antibiotic therapy indicated in certain conditions . ?

Indications for antibiotic therapy for acute sinusitis

- 1-Persistent acute sinusitis
- 2-Severe acute sinusitis
- 3-Toxic child with suspected complications

Antibiotics

- Initial amoxicillin(45mg/kg/day) with/out clavulanate
- Alternative :

  cefuroxime axetil,cefpodxime,clarithromycin ,or azithromycin(risk of emerging resistance)
- Failure of therapy : surgical evaluation for sinus aspiration-Cx.
- Duration :

  individualized ,7 days after resolution of symptoms.

Symptomatic/supportive

- 1-Irrigation :

  Saline sinus irrigation has efficacy in acute and chronic sinusitis :increases mucociliary clearance ,vasoconstriction, clears secretions, decreases bacterial counts, and clears allergens and environmental irritants from the nose.
- 2-Steroids
- Nasal steroids are essential for patients with concurrent allergic rhinitis. Of patients with allergic rhinitis, 90% report improvement in symptoms, including nasal congestion.

Symptomatic/supportive

- 3-Decongestants :

Nasal decongestants ,variably effective.

Topical decongestants may improve patients' comfort.

Restricting use to the first 4-5 days of medical treatment to avoid rebound vasodilatation.

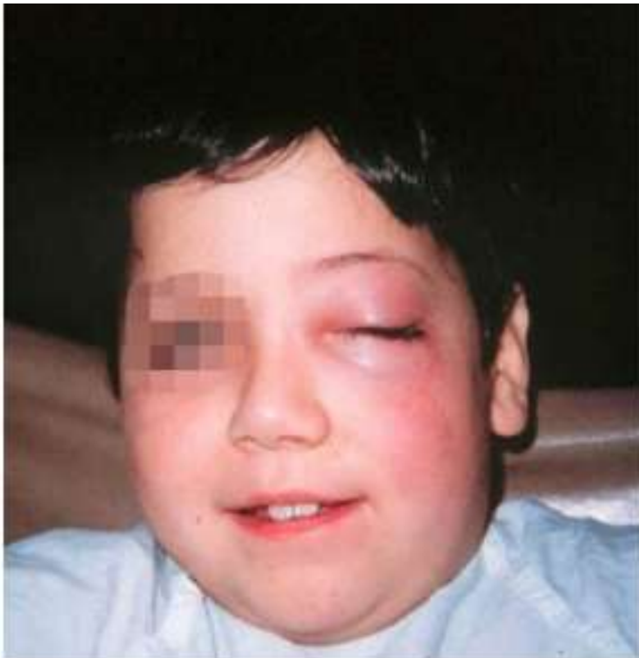
- 4-Antihistamines :

most useful in patients with atopy.

Q 4 : Name possible complication of this condition :

- 1-Otitis Media ,very common 40-60 %
- 2-ORBITAL COMPLICATIONS,periorbital cellulitis and orbital cellulitis-acute bacterial ethmoditis.(CT of orbits and sinuses ,ophthalmo-ent Cx)
- 2-INTRACRANIAL COMPLICATIONS, meningitis,cavernous sinus thrombosis ,subdural empyema ,epidural abscess and brain abscess.(s,s:altered mentality,signs of incr. ICP require immediate scanning of brain/orbit and sinus.

Complications



Preseptal cellulitis of the left eye. Courtesy of Dwight Jones, MD.

Case 3

Case3

- Hx :
- 5 year old ,
- unwell for 3 days .c/o low grade fever throat ,clear nasal discharge with mild intermittent cough ,loose stools . sleep,activity and appetite slightly affected.
- **P/E** : looks well .VS : temp :37.9 C oral ,RR and PR :normal .hyperemic nasal mucusa, throat: hypermic no follicles nor exudates .
- Chest exam : normal

What are Clinical Investigations needed ?

None is needed ,

(Usually)

What is your diagnosis ?

Viral Pharyngitis

Why viral ?

- Symptoms are more gradual, more with rhinorrhea ,cough ,diarrhea .
- Non toxic appearance

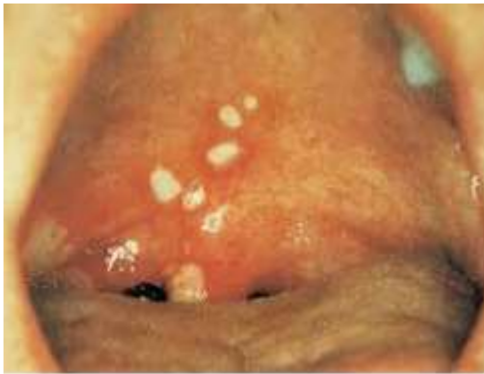
The following are few typical presentations of some types specific viral pharyngitis

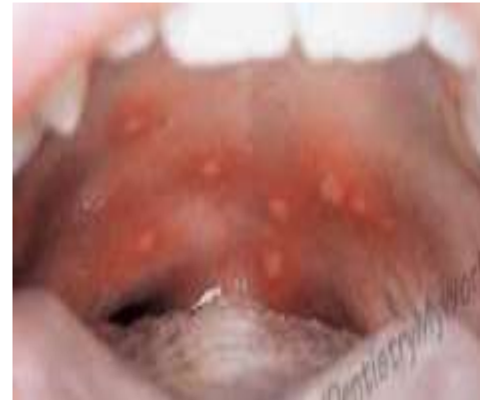
1-child with sore throat and concurrent conjunctivitis,fever,Diarrhea

The most likely virus is

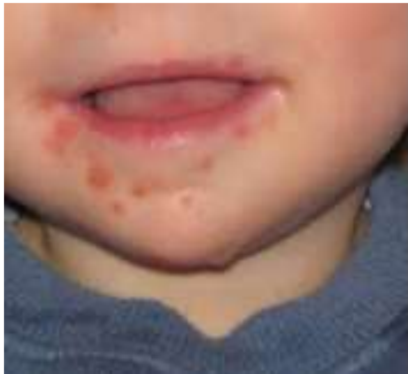
Adenovirus

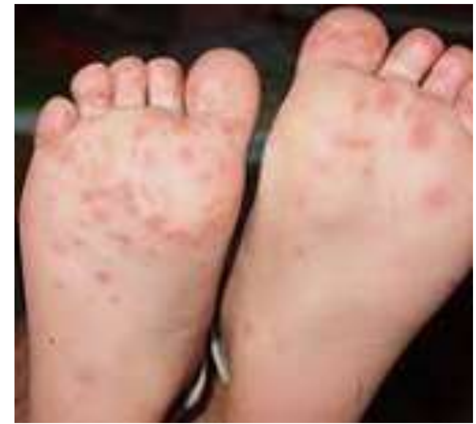
2-child with sorethroat, small grayish vesicles ,punched –out ulcers on post. Pharynx ,lymphonodular pharyngitis

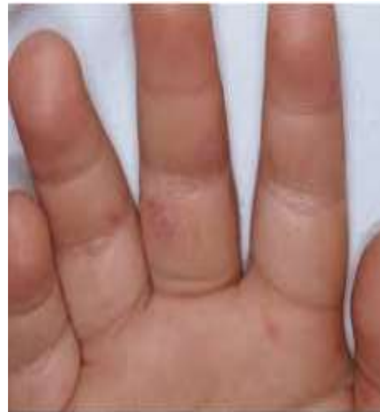




Also later developed rash around his mouth , on hands and feet





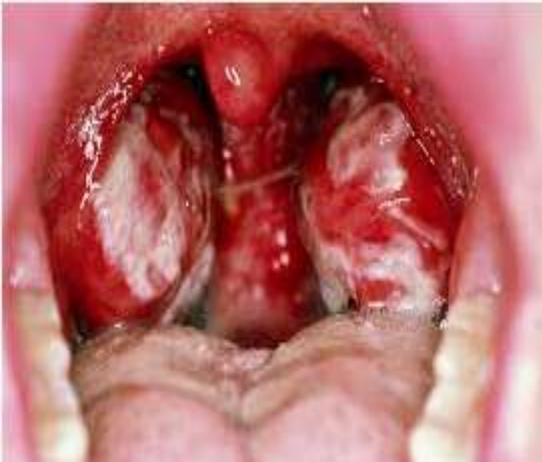


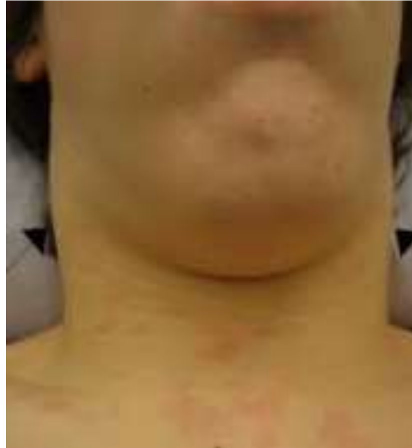
What is the likely virus/diagnosis?

Coxsackievirus ‘hrpangina

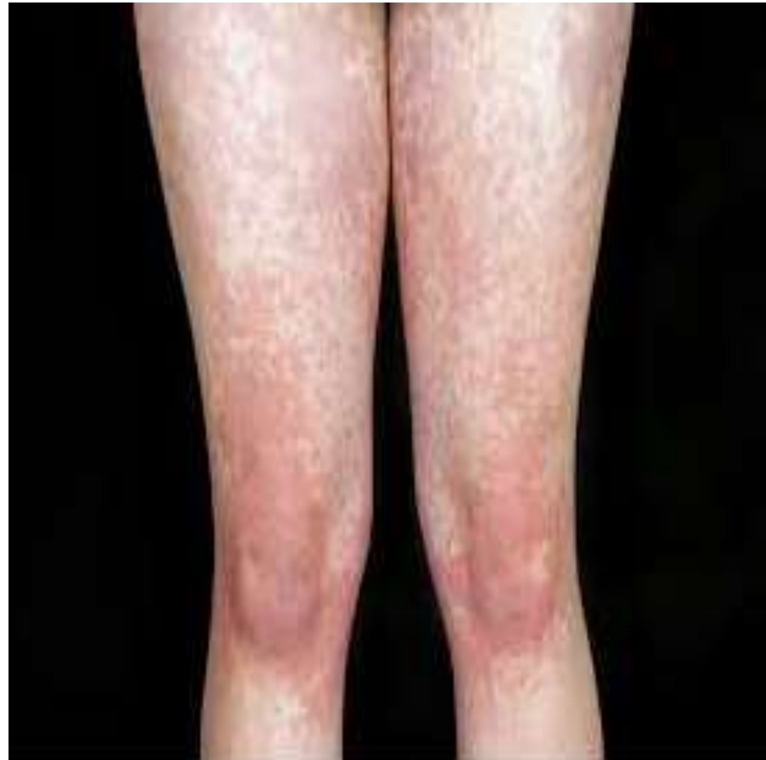
Mouth-hand –foot disease

3- A child with prominent tonsillar enlargement , cervical lymphadenitis ,HSM ,





After receiving penicillin for presumed (bacterial pharyngitis) the child developed a rash :



What is the most likely viral etiology /Clinical diagnosis ?

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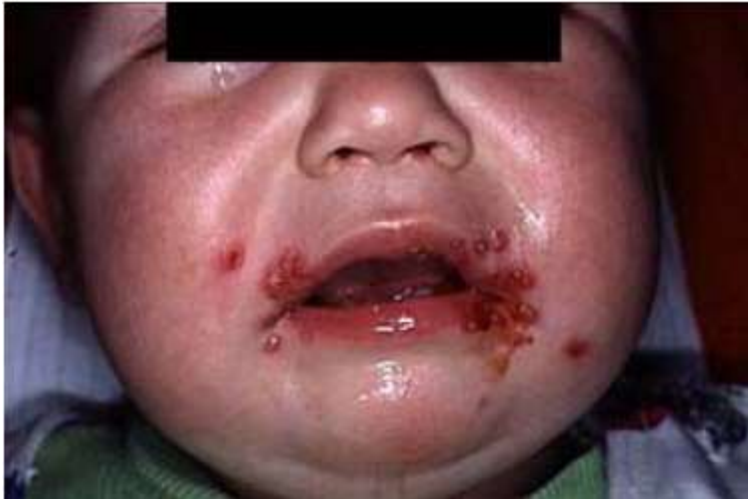
EBV virus :

Infectious Mononucleosis

4- A child with high grade fever, ,gingivostomatitis and vesicular rash around his mouth and inside his throat



What is the likely virus causing this condition ?

PRIMARY HERPES SIMPLEX

What is the recommended treatment for viral pharyngitis ?

- No specific treatment usually required

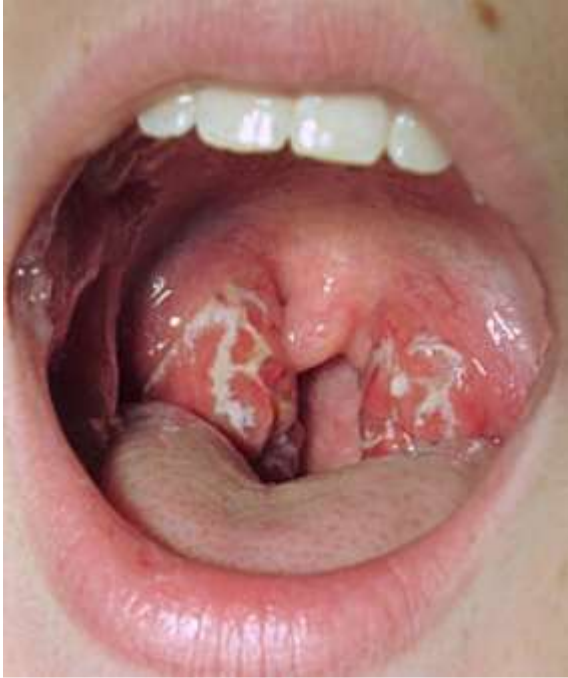
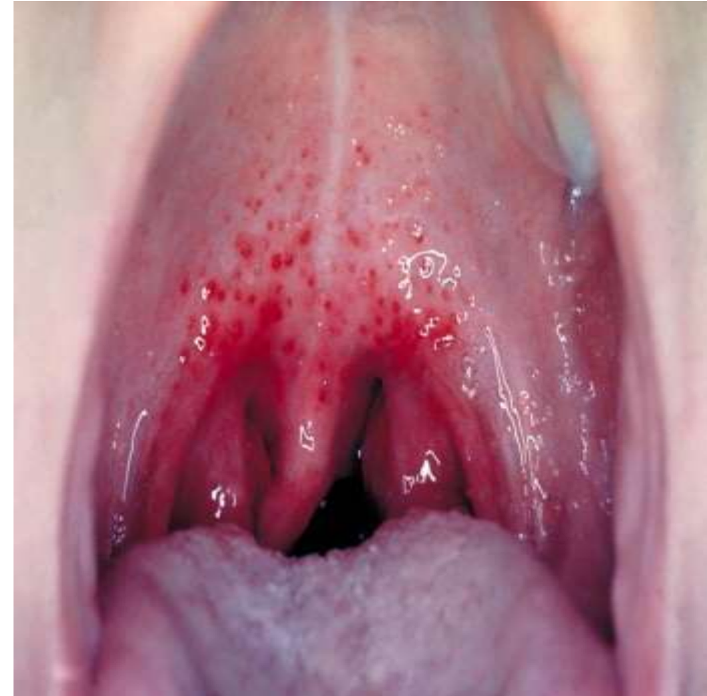
Anti pyretics , anti histamines ,

- Good nutrition and fluids
- For severe gingivostomatitis : admit for IV hydration and analgesia

Case 4

- HPI:
- 5 year old , sudden onset of sore throat and high grade fever 39 ,
- Tender cervical swelling both sides
- no nasal symptoms
- Vomited once , abdominal pain .
- No cough ,wheeze nor SOB

- P/E :
- Throat : red pharynx ,tonsils enlarged with yellow blood tenged exudate, few petechiae doughnut'lesions on soft palate and post. Pharynx .
- Uvula-red swollen.
- Ant. Cervical L.N enlarged, tender.
- Abdomen ,chest : normal

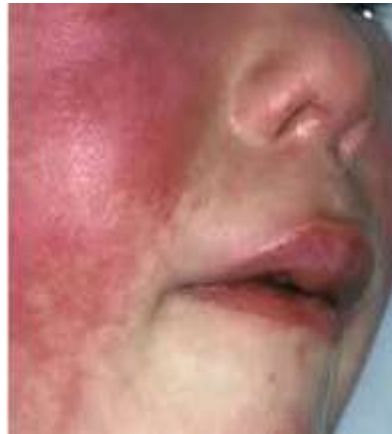
What is the likely diagnosis ?

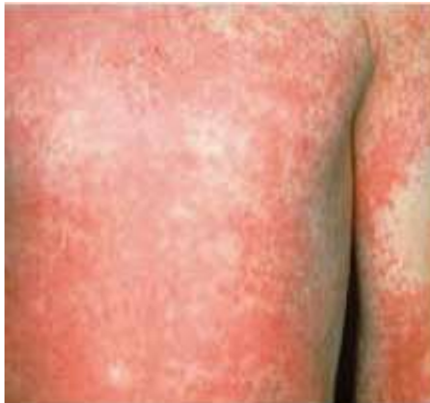
Group A B-hemolytic strep(GABHS) Pharyngitis

What do you need to do to confirm diagnosis ?

- IDENTIFY GABHS; throat culture (imperfect),false pos./neg., rapid antigen decting tests ;specificity is high,less sensitive .
- Special media of cx for some organisms ,prolonged incubation (A.hemolyticum).
- Viral cx;unreliable,expensive
- CBC , lymphocytes-positive slide aggltn.(SPOT) –EBV infectious mononucleosis

The above child developed the following signs :





Name the signs :

- circumoral pallor
- strawberry tonge
- fine red papular rash ‘sand paper’

What is your clinical diagnosis ?

Scarlet Fever

Caused by GABHS

What is the treatment for GABHS pharyngitis/scarlet fever ?

TREATMENT

- Mostly self limited
- Early AB therapy –quick recovery by 12 –24 hours.
- Primary AIM TO PREVENT ACUTE RHEUMATIC FEVER ,if Tx within 9 days of illness.
- AB without waiting culture in(symptomatic with pos. rapid AG detecting test,scarlet fever,household contact of documented strept.infx,recent hx of acute rheumatic fever in family member)

Treatment

- GABHS ;
- Penicillin V ,cheap,bid or tid ,250mg/dose,oral amoxicillin 250mg tid (tastes better ,tabs avilable)
- Single IM Penicillin G,benzathine, Erythromycin (40 mg/kg/day),first generation CPS,azithromycin .clindamycin(irradication carrier state).
- Nonspecific tx;antipyretics; acetamenophin ,ibuprofen,gargling warm salt water/phenol-mentol sprays .

What are the possible complications of pharyngitis ?

COMPLICATIONS-PROGNOSIS

- Viral URTI predispose to Bacterial Middle Ear Infections.
- Streptococcal infx complications;
- 1- Supporative local Complications (e.g parapharyngial abscesses)
- 2-Nonsupporative ones (ARF ,acute post infectious glomeriolonephritis) later

- Thank you