Respiratory cases for students

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Case 1

Mohammad ,

4 month old infant ,presented with cough

,wheeze for 3 days .

Hx of URTI 2 days prior to onset of symptoms .

Question 1

1-What are important questions you should ask in history ?

Mention anything relevant in :HOI,ROS,Past medical ,Birth ,Social , Vaccination, drug hx

Q 1: Answer and discussion

See notes below

NOTES

1-Hx of Present Illness : should include:

1- Assessing cough :
-Onset : sudden, gradual in this child it was progressing over the past 3 days ,
-Course progression : it was intermittent ,getting worse over past 24 hours
-Nature :Dry or wet: often dry but sound of secretions in his nose and throat noted sometimes .
-Severity : cough got worse over past 24 hours causing sleep disturbances , interrupted feeds , irritability
and associated with post- tussive vomiting two times
-Relieving and aggravating factors : no obvious relieving or aggravating factors but often worse after feeds or when asleep .

2-Associated Symptoms :
-URTI : nasal blocked and snoring sounds preceded onset of cough and still active ,with sneezingays
-Wheeze : mother noted rattling (wheezing)sound as he takes his breath out during last 2 d
-Apnea : No apnea noted ,nor he stopped breathing
-SOB : shortness of breath noted after a bout of cough especially during the past 24 hours ,rapid breathing noted
-Fever : child felt warm to touch since two days ,not documented
-Cyanosis : not noted

3-Hx of sick contact : his sibling had URTI 5 days ago

4-Activity – Feeding : baby was generally active and had good sucking but his cough and dyspnea interrupted his feed today and was less active than usual

5-Other relevant :
No hx of chocking while feeding
No hx of travel
No hx of diarrhea
No Hx of rash
No Previous similar episodes

2- ROS :
GI : no diarrhea , has post tussive vomiting ,usually good appetite ,adding weight ,No GERD symptoms
Heart : No cyanosis ,no lethargy or hypoactivity or sweating or pallor after feeds
CNS : no abnormal movements , baby alert no change in LOC
ENT : URT sx noted
Skin : no atopic dermatitis or eczema

3-Birth : born term at JUH ,vaginal delivery ,Birth weight 3.4 kg , No NICU admission

4-Anti natal , Post natal : ----------no jaundice , was well until this present illness

5-Vaccination : received BCG ,and fisrt dose of DTaP ,Hib ,HBV ,IPV , Rota no complications post vaccine

6-Social : father smoker , education and career for parent :--------

7-Nutrition : breast fed for first 2 months only then shifted to Formula ,Baylac:fortified with iron , usually receives 120 ml every 3 hours until this illness

Supplementation : Vitamin D 1 drop a day : 400 IU

8- Growth : should plot on chart Head cx, weight, length

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9-Development : acceptable (should ask questions relevant to his age)

10-Family hx : should draw the pedigree (child has on older sister 3 years of age, parents not relatives)
No family hx of asthma ,atopy

11- Drug hx : no medications used

Question 2

-What are important findings you should look for in Physical Examination ?

Please observe the findings in video below

https://www.youtube.com/watch?v=QNrsjDzD0QM-

Kindly 0bserve notes below

Notes

Examination :
Should comment on :

-General look , vital signs ,LOC (alert ,agitation if hypoxic , late : CO2 narcosis causes drowsiness and narcosis)
any supplementation with O2
-Audible breathing sound if present (wheeze /stridor /whoop)
-SPO2 %
-Comment on Signs of respiratory distress if present : tachypnea , grunting ,flaring of nostrils ,retractions (supra sternal ,intercostal and sub costal) head bobbing can be noted in younger infants with bad resparatory distress
-Comment on increased work of breathing , use of accessory muscles
-Signs of dehydration : from decreased oral intake
-Fingers : for clubbing (older children) ,cyanosis
-ENT exam
-Skin : for eczema ,rash
-Chest exam : complete exam :inspection, palpation , ausculation ,percussion ,
-Relevant organs :
Heart for CHF or CHD
Liver for hepatomegaly

Video :
This child looks in respiratory distress has : increase work of breathing ,tachypnea ,subcostal intercostal retractions , audable expiratory wheeze
Although he is alert , interested in surroundings (not septic ,or hemodynamically unstable)

Question 3

What important investigations should be performed for this child ?

Kindly observe notes below

Notes

-Priority always in ER or clinic to stabilize the child before doing investigations .

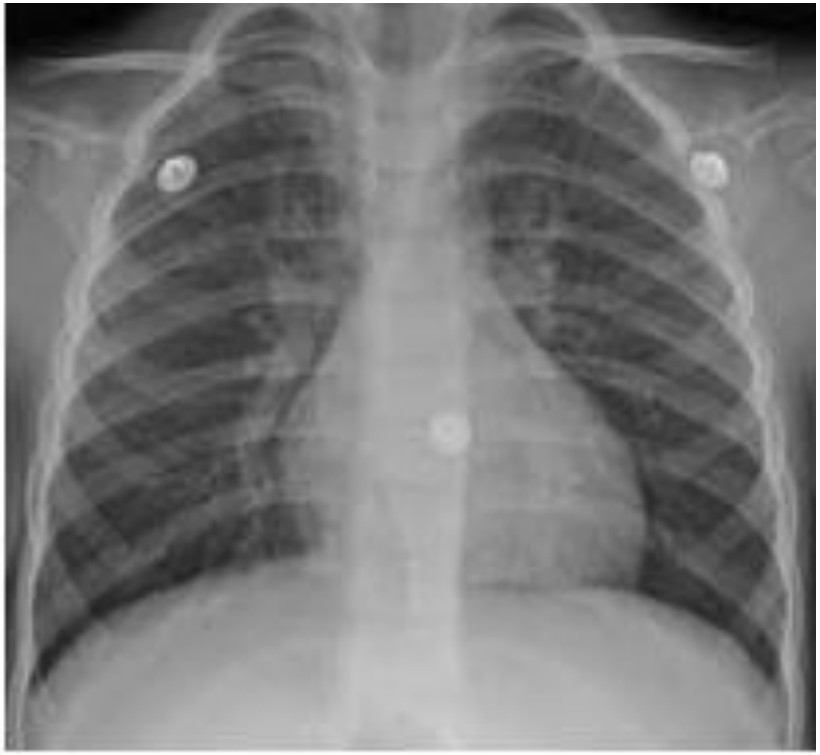
-If not in respiratory distress ,if well no high grade fever , usually this condition is diagnosed clinically with no investigations needed .

However ,a sick child ,with high grade fever and /or respiratory distress will need the following :

CXR : to confirm dx ,exclude complications or other DDx
CBC : for WBC ,Diff if febrile
KFT ,electrolytes : if persistent vomiting ,or dehydrated on Examination from decreased feeding
CRP : if sepsis or pneumonia suspected
Blood culture :if sepsis or pneumonia suspected

Nasal swab or nasopharyngeal aspirate : for viral detection ,if admitted . (RSV ,Infleunza,parainfl,adeno,rhino ,HMNP ,

Q 4 :what is you interpretation ?



CXR shows hyperinflation with increase bronchovascular markings and peri bronchial inflammatory changes

What is your DDx
likely diagnosis

DDX;
Acute viral bronchiolitis (hx of URTI ,presence of wheeze , non toxic)
Viral bronchopneumonia (usually wheeze are not prominent)
Bacterial pneumonia (why not : no high grade fever ,no severe hypoactivity or decreased sucking)
Reactive airway diseas (early asthma) why not ; young age ,no previous episodes ,no atopy or family history
Aspiration pneumonia (no hx of chocking ,no neuromuscular problems)
Congetsive Heart failure (no symptoms of CHF ,adding weight , no hepatomegaly on P/E or CXR)

Likely diagnosis ; acute viral bronchiolitis

Question 4

What treatment should this child receive ?

Discuss

Treatment : Primarily supportive : if admitted :

1-Respiraory support :O2 supplementation :if SPO2 < 93 % or if increased WOB ,retractions ,hyperventilating
(O2 nasal canula ,O2 mask)
if worse distress /persistent hypoxemia : consider : positive pressure ventilation :CPAP
if in pending respiratory failure ,in respiratory failure or apnea/ decrease LOC : intubation and assisted ventilation

2-Hdration /nutrition : provide IVF if feeding decreased , ? NG feeds :controversial

3-Symtpmatic respiratory tx : nebulization with normal saline or hypertonic saline for airway clearance and decrease secretions

4-Nasal care to relive nasal obstruction :with sailne +/_ scuction of nose is important to decrease WOB