

## TEACHING FILE

## GRAND ROUNDS

Ira Shah

**PNEUMONIA WITH A WHEEZE**

**Clinical Problem:** A 10 months old boy presented with cough for 7 days, fever for 3 days and breathlessness for 2 days. On examination, he was in distress with respiratory rate of 60/min, had suprasternal, intercostals and substernal retractions with flaring of alae nasi. Chest examination revealed decreased air entry in right subscapular area with bilateral wheeze. Investigations showed:

- WBC count = 18,000/cumm (30% polymorphs, 70% lymphocytes)
- Hemoglobin = 12 gm/dl, ESR = 36 mm at end of 1 hour.
- Chest X-Ray = right lower zone consolidation with bilateral hyperinflation.

**Why does this pneumonia have bilateral wheeze?**

**Expert's opinion:** This child has a right lower lobe pneumonia which can explain the respiratory distress. However, this child had predominantly constitutional symptoms in form of cough initially which then led to fever. Thus a possibility of viral infection is there. Thus, this child could have started of as a viral respiratory illness with superadded bacterial pneumonia or aspiration (aspiration usually leads to right upper lobe pneumonia if child aspirates on lying down or could lead to right lower lobe pneumonia if it aspirates on upright position). Pneumonia is affection of alveoli and leads to crepitations. Wheeze is seen with involvement of bronchi and is usually due to bronchitis (infective) or asthma. Thus, this child also has bronchitis apart from pneumonia. However presence of suprasternal retractions suggests extrathoracic pathology. Thus bronchitis with extrathoracic pathology is laryngotracheobronchitis or croup. Thus, in this child apart from superadded bacterial or aspiration pneumonia, there is croup. X-Ray of neck proved presence of steeple sign and child improved with adrenaline nebulization.

Thus, wheeze in a child with pneumonia is unusual and one must consider other pathologies.

**E-published:** April 2011. **Art#28**

**EXCESSIVE SLEEPINESS**

**Case Report:** A 15 month old girl born of non consanguineous marriage presented with excessive sleepiness for 3 days and fever for 1 day. She had a boil over left lower abdomen 8 days back which has ruptured and left behind an ulcer over the abdomen for past 3 days. There is no history of contact with TB. Birth history, milestones are normal. The child is immunized till date and is on breast feeds and weaning food. On examination, she is drowsy, has no BCG scar, has an ulcer of 1 cm x 1 cm over left abdomen, no meningeal signs, right sided lateral rectus palsy and

hepatomegaly. Other systems are normal. Reflexes and tone are normal. Investigations show normal blood sugar, blood gases, serum ammonia, complete blood count and renal and liver function tests.

**What is the diagnosis?**

**Expert's opinion:** This child has excessive sleepiness, lateral rectus palsy and a non-healing ulcer. Lateral rectus palsy suggests raised intracranial tension and sleepiness could be due to that. Since this child has no fever, meningeal signs or seizures, meningitis leading to raised ICT seems unlikely. It may be due to intracranial space occupying lesion (SOL). An SOL with a skin ulcer makes one suspect tuberculosis or brain abscess. However brain abscess may be associated with fever of a longer duration and would be unlikely. In this child, MRI brain showed multiple ring enhancing T2 hypointense lesions in left posterior parietal, parieto occipital, left fronto-parietal and right perisylvian and left cerebellar region with hydrocephalus suggestive of tuberculosis. Skin lesions were also suggestive of gumma. CSF examination showed 26 cells with 100% lymphocytes. Child was treated with 4 drugs antituberculous therapy and steroids to which he responded.

**E-published:** May 2011. **Art#34**

**ALLERGY TO SULPHA**

**Case Report:** An 18 months old child presented with pulmonary tuberculosis (TB) and HIV disease. He had failure to thrive (height = 71 cm, weight = 7 kg) with delayed development and hepatosplenomegaly. He was started on TMP-SMX prophylaxis but developed urticaria and thus was stopped. His CD4% was 30%.

**How to give PCP prophylaxis to this child?**

**Expert's opinion:** Some people are allergic to sulfa and develop reactions such as an itchy red rash, sometimes with fever. In affected people, this usually occurs during the second week of taking the drug. In rare cases these reactions are extremely serious. Given the importance of cotrimoxazole and the lack of an equally effective and widely available alternative, desensitization is an important component of managing HIV infection. It can be attempted two weeks after a non-severe (grade 3 or less) cotrimoxazole reaction that has resulted in a temporary interruption of cotrimoxazole. Desensitization should not be attempted in individuals with a history of grade 4 reaction to previous cotrimoxazole or other sulfa drugs. It is recommended to commence an antihistamine regimen of choice one day prior to starting the regimen and to continue daily until completing the dose escalation. On the first day of the regimen, the step 1 dose of cotrimoxazole is given and subsequently increased

one step each day. If a severe reaction occurs, the desensitization regimen is terminated. If a minor reaction occurs, repeat the same step for an additional day. If the reaction subsides, advance to the next step` if the reaction worsens, the desensitization regimen is terminated.

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**E-published:** June 2011. **Art#**40

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