

# Complicated influenza

Alireza janbakhsh

MD KUMS

- Complication:
- *1- pulmonary*
- *2- nonpulmonary*

# pneumonia

- **Primary viral pneumonia**

- First time in 1957-58

- Most occurs in cardiovascular – rheumatic heart with mitral stenosis- pulmonary disorders

- Rapid progression after typical flu syndrome

- Fever- cough- dyspnea- cyanosis

- Bilateral finding consistent with ARDS without consolidation
  - Hypoxia in ABG
  - Gr stain no bacteria
  - Viral culture high titer
  - Do not respond to antibiotics
  - Mortality high
  - In biopsy diffused hemorrhagic pneumonia

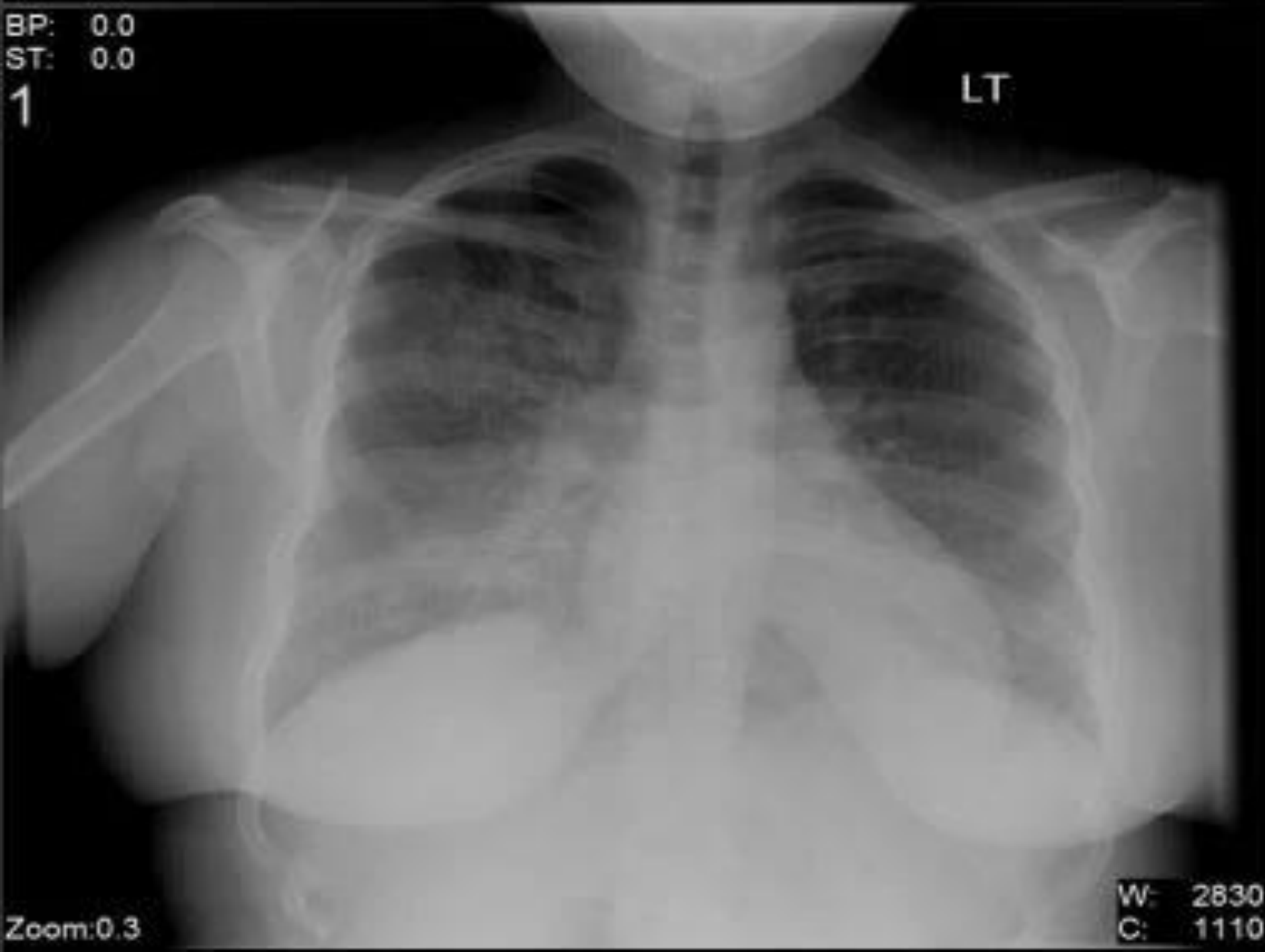
BP: 0.0  
ST: 0.0

1

LT

Zoom:0.3

W: 2830  
C: 1110



# Secondary bacterial pneumonia

- Indistinguishable from occurring without flu
- Classic flu followed a period of improvement for 4-14 days then reappearance of fever
- Symptoms and signs of bacterial pneumonia
- Cough- sputum- and consolidation( physical exam and X-ray
- 2 common organisms **pneumococcus and staph**

- Recently community acquired **MRSA** has been appeared
- Prodromal flu syndrome may not be severe
- ***So fever pattern may not be biphasic***
- Sometimes confuse with mycoplasma pneumonia
- ***Procalcitonin and PCR may distinguish viral and bacterial pneumonia***

# ***Pneumonia in immunosuppressed***

common in children

- More in transplantation and leukemic patients
- More immunosuppression greater risk
- Also in HIV cases with low CD4 count



# Other pulmonary complications

- **Bronchiolitis** ( in type A,B) particularely in type 3 parainfluenza , RSV
- **Croup** in type A
- **Acute exacerbation of COPD and asthma**

# nonpulmonary

- **Myositis** with tender legs and elevated CPK
  - May interfere with walking
- Cardiac
  - myocarditis** and **pericarditis** in type A,B
  - some associations with **MI**

- **Toxic shock syndrome**
  - with colonization and replication of toxin producing staph
- **Guillain- barre** after type A
  - no definite etiologic relationship
- **transverse myelitis**
- **encephalitis**

# *Reye syndrome*

- With many viruses prominently **influenza** and **varicella**  
**change in mental status**  
lethargy to delirium, obtundation, seizure and respiratory arrest  
CSF is normal  
**blood ammonia level** increase in all patients  
exclusively in children using aspirin  
Other NSAD are safe