

Adult Respiratory cases

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Case 1



History:

45 years old lady ,previously healthy .

Presented to emergency department with **fever** for 5 days, reaching **39.5 C**.

Associated with productive cough and shortness of breath.

Physical examination

General : looks unwell, has increased WOB .(RR 40 b/m,PR 110 ,temp 39).

subcostal and intercostal retractions .

Chest :

Auscultation : decreased air entry on Rt lower side.Bronchial breathing ,increased tactile vocal fremitus ,few inspiratory crackles Rt side.

Percussion : : dull to percussion

What are the Clinical
Investigations needed ?

CXR

CBC ,Blood culture ,inflammatory
markers ,...etc



What is your diagnosis ?



Pneumonia

Pneumonia

Definition

**Inflammation of the parynchyma of the lungs.
(alveoli and terminal airspaces in response to invasion by an infectious agent introduced into the lungs through hematogenous spread or inhalation)**

Causes :

Infectious ,mostly (Strept Pneumonia ,staph aureus , Mycoplasma p.

Noninfectious :

aspiration of food or gastric juice

hypersensitivity reactions

foreign bodies

Hydrocarbons and lipoid substances

radiation induced pneumonitis

COMPLICATIONS

- **Pleural effusion**
- **Direct invasion: Empyema, pericarditis**
- **Hematogenous spread: Meningitis ,suppurative arthritis and osteomyelitis (rare) .**

Complicated pneumonia

Pleural effusion



**Necrotizing pneumonia :
cavitation**



TREATMENT

- **Typical pneumonia:** mild ,out-patient Mx :oral amoxicillin ,cefuroxime, amoxicillin/clav.
- **Atypical pneumonia:**macrolide like azithromycin or levofloxacin
- **Sick ,hospitalised patients** ;parenteral cefuroxime .if staph. aureus suspected (pneumatocele ,empyema) clindamycin or vancomycin .

Case 2

- **History :**
- 45-year-old gentleman presents for evaluation of dyspnea of 6 months duration , associated with chronic minimally productive cough . He is police officer . He is current smoker of 40 pack year. He has unremarkable past medical, surgical and drug history. He has no history of childhood Asthma, atopy or family history of Asthma.

Physical examination

Afebrile ,RR 35 (20-30) ,

Pulse rate 100 .

SPO2 89%.

Intercostal and subcostal retractions .

Chest :

diffuse Expiratory wheeze,prolonged expiratory phase with decreased air entry .

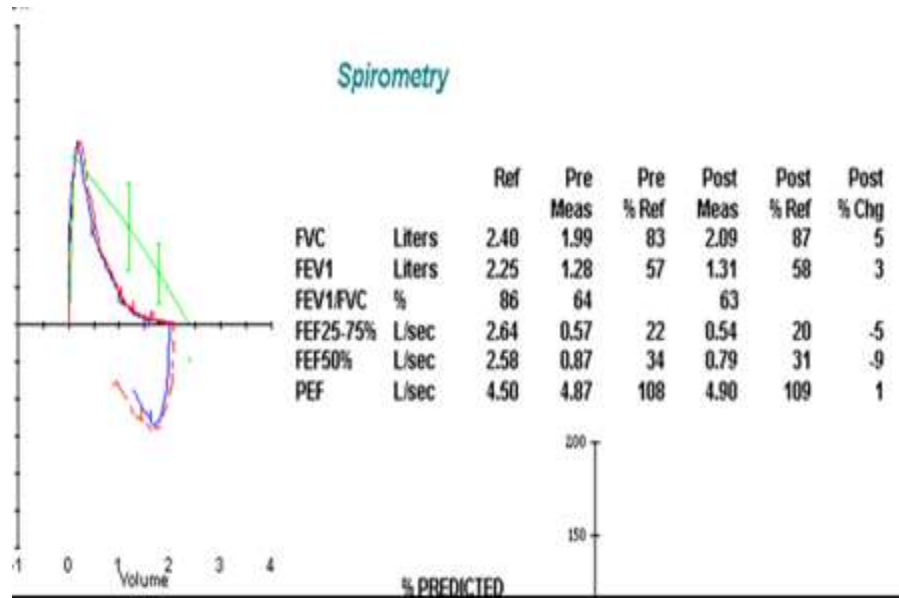
CVS :normal ,liver not palpable ,

hands : no finger clubbing .

What is the next investigation ?



Other investigation:



What is the diagnosis:

COPD

Definition

is a **common, preventable** and **treatable** disease.

It is characterized by **persistent** respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually **caused** by significant exposure to noxious particles or gases.

The chronic airflow limitation that is characteristic of COPD is caused by a mixture of **small airways disease** (e.g., obstructive bronchiolitis) and **parenchymal destruction** (emphysema), the relative contributions of which **vary** from person to person.

Treatment

Reducing risk factor exposure

Appropriate assessment of disease

Patient education

Pharmacological and non-pharmacological management of stable COPD

- Prevention and treatment of acute COPD exacerbations

Pharmacological treatment

Inhaled B2 agonist(short acting)(SABA)

Inhaled B2 agonist(long acting)(LABA)

Inhaled anticholinergic(short acting)(SAMA)

Inhaled anticholinergic(long acting)(LAMA)

Inhaled corticosteroid (ICS)

Combination inhalers

Methylxanthine

Phosphodiastrase-4 inhibitor

Case 3

64 years old female patient with longstanding history of type 2 DM and recently treated breast cancer presented to the ER with fever, cough and dyspnea.

Her COVID19 swap is positive .

Physical examination

BP is 130/70 .

RR 18 .

HR 98 .

SO₂ 86% on room air.

temp 38.6 C.

Chest : bilateral inspiratory crackles and bronchial breath sounds.

Increased TVF and dull percussion .

Investigation



Investigation

ABG on room air

PH: 7.42

PaCO₂: 33 mmHg

PaO₂: 40 mmHg

SPO₂: 80%

PF ratio: Pao₂/Fio₂

$$40/0.21=190$$

Diagnosis

ARDS

Adult respiratory distress syndrome

Definition

Acute respiratory distress syndrome (ARDS)
It is a clinical syndrome characterized by an acute, diffuse, inflammatory form of lung injury resulting from diffuse injury to the alveolo-capillary membranes. , (characterized by increased pulmonary vascular permeability, and loss of aerated tissue, increased work of breathing and impaired gas exchange.)

ETIOLOGIES AND PREDISPOSING FACTORS

| DIRECT LUNG INJURY | INDIRECT LUNG INJURY |
|------------------------------------|-------------------------------|
| Pneumonia | Sepsis |
| Aspiration of gastric contents | Multiple trauma |
| Pulmonary contusion | Cardiopulmonary bypass |
| Fat, amniotic fluid, or air emboli | Drug overdose |
| Near-drowning | Acute pancreatitis |
| Inhalational injury | Transfusion of blood products |
| Reperfusion pulmonary edema | |

Treatment

Treatment for ARDS typically aims to:

Increase blood oxygen levels.

Provide breathing support.

Treat the underlying cause of the disease.