ACUTE RESPIRATORY DISTRESS SYNDROME

OBJECTIVE

- SPECIFIC:

At the end of the class students will be able to:-

- ✓ Define acute respiratory distress syndrome.
- ✓ Enumerate the etiology acute respiratory distress syndrome .
- ✓ Explain about the pathophysiology of ARDS.
- ✓ List out the clinical manifestations of ARDS.
- ✓ Enumerate the diagnostic evaluation of ARDS.
- ✓ Explain the management of ARDS.

DEFINITION

- Acute respiratory distress syndrome (ARDS non cardiogenic pulmonary edema) is a clinical syndrome characterized by sudden and progressive edema, increasing bilateral infiltrate, reduce lung compliance, and hypoxemia refractory to oxygen supplementation.

ETIOLOGY

- It may be pulmonary or non pulmonary.

1) Pneumonia, sepsis, aspiration.
2) Shock due to any cause or trauma.
3) Metabolic immunologic and hematologic disorders.
4) Chronic smoker
5) Irritants (fumes, cons. Oxygen)
6) Major surgeries, fat and air embolisms

PATHOPHYSIOLOGY

Acute injury to the lung

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Increase permeability of alveolar membrane

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Movement of fluid to alveolar space

PATHOPHYSIOLOGY

Development of non cardiogenic oedema

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Impaired oxygen transport

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A.R.D.S.

CLINICAL MANIFESTATION

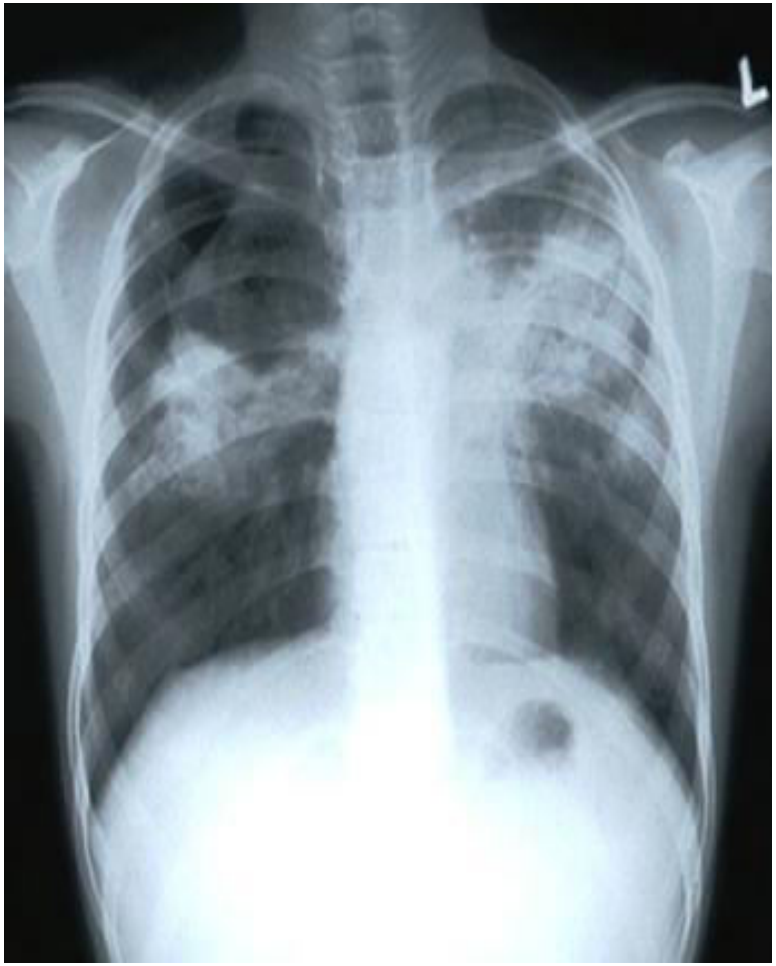
- Severe Dyspneoa
- Use of accessory muscle
- Increase requirement of oxygen therapy
- Hypoxemia
- Chest pain
- Severe Crackles and Ronchi sound heared on auscultation.

CLINICAL MANIFESTATION

- cough, wheezing
- Chills with fever
- Muscle weakness
- Labored breathing and tachypnea

DIAGNOSTIC EVALUATION

1. History taking.
2. Physical examination.
3. Blood test.
4. Urine examination.
5. Chest X-ray.
6. CT-scan.



DIAGNOSTIC EVALUATION

7. ABG analysis.
8. Bacteriological studies.
9. Sputum smear for acid fast bacilli (AFB).
10. Sputum culture.
11. Pulmonary artery catheter reading reveals, pulmonary artery wedge pressure more than 18 mm 0f hg.

DIAGNOSTIC EVALUATION

- Infection as pneumonia and sepsis.
- Pulmonary embolism
- Pulmonary fibrosis
- Emphysema
- Decrease cardiac output

MANAGEMENT

- **Medical management**

1) Identify and treat the underlying condition; ensure early detection; use supportive treatment; prevent infection(incubation and mechanical ventilation)
2) As disease progresses, use positive end expiratory pressure(PEEP)

MANAGEMENT

3) Neuromuscular blocking agents such as pancuronium and norcuron may be used to paralysed patient for easier ventilation.
4) Monitor ABG values, pulse oximetry,and pulmonary function testing.
5) Provide circulatory support; treat hypovolemia carefully avoid overload.

MANAGEMENT

6) Provide adequate fluid management ; administer intravenous solution.

7) Provide nutritional support (35-45 kcal/kg daily).

8) Pharmacologic therapy may include human recombinant interleukin-1 receptor ntagonist, neutrophil inhibitors, pulmonary specific vasodilators, surfactant replacement therapy, antisepsis agents, antioxydent therapy, and corticosteroids

MANAGEMENT

- **Nursing management**

Assessment

Diagnosis –

1. Impaired gas exchange related to congestion.
2. Sleep pattern disturbance related to Dyspneoa.
3. Activity intolerance related to disease condition.
4. Anxiety related to disease condition.
5. imbalance nutritional pattern related disease condition

THANK-YOU