Cellulitis

- Cellulitis is a bacterial skin infection that affects the deeper layers of the skin and the underlying tissues.
- It is typically caused by bacteria, most commonly Streptococcus or Staphylococcus species, entering the skin through a break or crack in the skin's surface.
- Cellulitis can occur anywhere on the body but is most commonly found on the lower legs.

Special Characters seen in Cellulitis

- Skin changes: The skin may become tight and shiny, and it can develop a "peau d'orange" (orange peel) appearance.
- Swollen lymph nodes: Nearby lymph nodes may become enlarged and tender.

Boils

- A boil, also known as a furuncle, is a skin infection that begins in a hair follicle or oil gland.
- Boils are typically painful, swollen, and filled with pus.
- They can occur anywhere on the body but are most commonly found on the face, neck, shoulders, buttocks, and underarms.
- Boils are usually caused by a bacterium called Staphylococcus aureus.

Special Characters seen in Boils

- Pus-filled center: Over time, the lump becomes larger and forms a white or yellow pus-filled head.
- Boils can sometimes be confused with other skin conditions like cysts or abscesses, so it's important to have them properly diagnosed by a healthcare provider.

Carbuncle

- A carbuncle is a skin infection that involves a group of connected furuncles (boils).
- It is a more extensive and severe skin condition than a single boil and is characterized by a cluster of pus-filled bumps and abscesses that develop beneath the skin.
- Carbuncles often occur in areas of the body with thick hair, such as the back of the neck, shoulders, or thighs.
- These infections are typically caused by Staphylococcus aureus bacteria.

Special Characters seen in Carbuncle

- Cluster of boils: A carbuncle is made up of multiple interconnected boils, each with its own pus-filled center.
- Larger size: Carbuncles are usually larger than individual boils and can range in size from a few centimeters to several inches in diameter.
- Carbuncles can be more serious than single boils because they involve a larger area of infected tissue and can lead to complications if left untreated.

Erysipelas

- Erysipelas is a bacterial skin infection that primarily affects the upper layers of the skin and the lymphatic system.
- It is characterized by a well-defined, raised, and intensely red or pink rash, often with a sharply demarcated border.
- Erysipelas is typically caused by the bacterium Streptococcus pyogenes, also known as group A Streptococcus.

Special Characters seen in Erysipelas

- Erysipelas commonly occurs on the face, especially around the eyes, nose, and cheeks, but it can also affect other parts of the body, such as the legs and arms.

Anthrax

- Anthrax is a bacterial infection caused by the bacterium Bacillus anthracis.
- It primarily affects livestock and other mammals but can also infect humans.
- Anthrax can occur in several forms, including cutaneous (skin), gastrointestinal, inhalational, and injection anthrax.
- Inhalational anthrax is the most severe form and is often associated with bioterrorism due to its potential to cause large outbreaks.

Common Symptoms seen in above diseases (Cellulitis, Boils, Carbuncle, Erysipelas, Anthrax)

1. Red, painful lump
2. Pus-filled center
3. Pain
4. Swelling
5. Fever

Treatment should applied in above diseases (Cellulitis, Boils, Carbuncle, Erysipelas, Anthrax)

1. Warm compresses: Applying warm, moist compresses to the carbuncle can help promote drainage and relieve pain.
2. Antibiotics: According to causative organism and severity of disease antibiotics should advised
3. Incision and drainage: In some cases, a doctor may need to make an incision to drain the pus from it.
   This is typically done under sterile conditions and may be necessary if the carbuncle does not improve with other treatments.
4. Pain relief: Over-the-counter pain relievers can help manage the pain.
5. Antipyretics: To reduce temperature anti-pyrectics should advice.

CHEST TRAUMA

- In blunt/penetrating chest trauma part of heart most vulnerable to injury i.e Right ventricle as it is situated substernal.
- Pulmonary contusion injury is m/c injury to lung seen in thoracic
- Diagnosis of pneumothorax is confirmed by erect PA view chest X-ray.
- Tracheobronchial disruption occurs usually within 2 cm of carina.
- Pericardial tamponade: The diagnosis is best made by a combination of injury pattern
- Treatment: Immediate anterolateral thoracotomy (if patient is stable) or pericardiocentesis through a subxiphoid pericardial window or via percutaneous drain placement.

RIB FRACTURE

• Results from fracture of at least 2 sites of 3 adjacent ribs.
• Diagnosis: by inspection asymmetrical chest movement and paradoxical movements are seen in
spontaneously breathing patient.
• Paradoxical respiration is seen in diaphragm paralysis
• Treatment: Mainly ventilator support.
• Mechanical ventilation should be started if Pa02 is <70 mmHg.
• Surgical stabilization (preferably internal) is advocated nowadays.
• Analgesia with regional anesthesia (epidural) has most role in chest wall injuries.
• Pulmonary contusion is NOT an indication for thoracotomy.
• Lung abscess is usually not seen in Mycoplasma pneumoniae.

Surgical incisions to open thorax

1. Median sternotomy is the preferred approach to heart
2. A sternotomy with a neck extension is useful for injuries at thoracic outlet.
3. Anterolateral thoracotomy in supine is performed for exploratory thoracotomy that to Pericardial tamponade.
4. Posterolateral thoracotomy is used for injuries of posterior aspect of the trachea or main bronchi near the carina, A tear of the descending thoracic can be repaired through a left posterolateral thoracotomy

Empyema thoracis

- It is often referred to simply as empyema, is a medical condition characterized by the accumulation of pus in the pleural cavity, the space between the outer surface of the lungs and the inner lining of the chest wall.

- This condition typically develops as a complication of another respiratory infection, such as pneumonia, or as a result of a chest injury or surgery. It can also occur as a result of the spread of infection from nearby structures, such as the ribs or the spine.

Special clinical features of empyema thoracis

Chest Pain

- Patients with empyema often experience chest pain, which can be sharp or aching in nature and may worsen with breathing or coughing.

Fever

- An elevated body temperature is common and is usually accompanied by other signs of infection, such as chills and sweats.

Cough

- A persistent cough, sometimes producing yellow or green sputum, may be present.

Shortness of Breath

- As the pleural space fills with pus, the lungs have less room to expand during breathing, which can lead to shortness of breath.

Treatment:

Drainage

- The primary goal of treatment is to drain the pus from the pleural cavity.
- This can be achieved through various methods, including chest tube insertion, thoracentesis (needle aspiration), or, in some cases, surgery.

Antibiotics

- Antibiotics are prescribed to treat the underlying infection that led to empyema.
- The choice of antibiotics depends on the suspected or identified bacteria causing the infection.
- Complications can include the development of loculated pockets of pus within the pleural space, scarring of the pleura (fibrosis), and lung collapse.
- The prognosis for empyema varies depending on the underlying cause, the promptness of treatment, and the overall health of the patient.

Mediastinal Tumor

Location

- A mediastinal tumor is a tumor that forms in the mediastinum, which is the central compartment of the chest between the lungs.
- The mediastinum contains vital structures such as the heart, large blood vessels, esophagus, thymus gland, and lymph nodes.

Types

- There are various types of mediastinal tumors, which can be benign (non-cancerous) or malignant (cancerous).
- Common types include thymomas (arising from the thymus gland), lymphomas (arising from lymph nodes), germ cell tumors, neurogenic tumors (arising from nerves), and others.

Symptoms

- The symptoms of a mediastinal tumor can vary widely depending on its location and size.
- Common symptoms may include chest pain, cough, shortness of breath, difficulty swallowing, and swelling of the face or neck.

Diagnosis

- Diagnosis typically involves imaging studies like chest X-rays, CT scans, or MRI scans. A biopsy may be necessary to determine if the tumor is benign or malignant and to identify its specific type.

Treatment

- Treatment for a mediastinal tumor depends on the tumor type, location, and whether it is benign or malignant.
- Treatment options may include surgery, radiation therapy, chemotherapy, or a combination of these. The choice of treatment is individualized based on the patient's condition.

Bronchogenic Tumor

Location

- A bronchogenic tumor is a tumor that originates in the bronchi or bronchial tubes, which are the air passages in the lungs.
- These tumors are more specifically related to the respiratory system.

Types

- The majority of bronchogenic tumors are malignant lung cancers.
- The most common types of lung cancer are non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC).

Symptoms

- Symptoms of bronchogenic tumors often include persistent cough, chest pain, shortness of breath, coughing up blood, unexplained weight loss, and fatigue.
- These symptoms may develop as the tumor grows and obstructs the airway or invades surrounding tissues.

Diagnosis

- Diagnosis typically involves imaging studies such as chest X-rays, CT scans, or PET scans, as well as bronchoscopy to directly visualize the airways and collect tissue samples for biopsy.

Treatment

- Treatment for bronchogenic tumors depends on the type and stage of the cancer.
- Options may include surgery, radiation therapy, chemotherapy, targeted therapy, immunotherapy, or a combination of these treatments.
- Early-stage lung cancer is more likely to be treated with surgery, while advanced-stage cancer may require a combination of therapies.