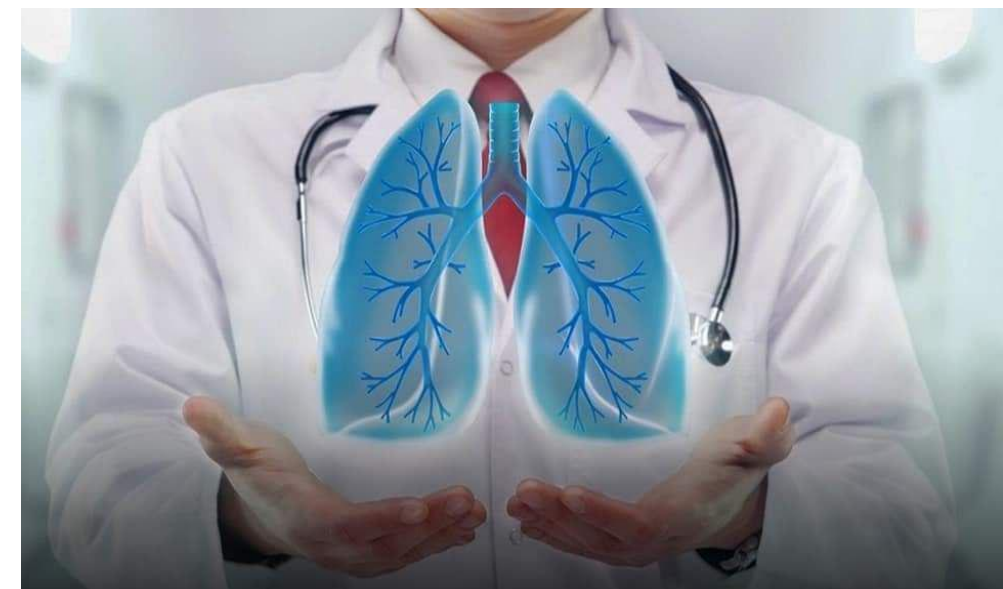




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المحاضرة الثانية-المرحلة الثانية الطب الباطني- تقنيات التخدير

Bacteremia and septicemia

defintions

Bacteremia: is an infection in the blood caused by the bacteria or it is the presence of viable bacteria in the bloodstream. It is not dangerous and usually does not require any treatment. The body's immune system clears it off. •

Septicemia:It is a life-threatening infection or complication caused by the entry and multiplication of bacteria in the bloodstream. It is also termed as 'blood poisoning'. •

•

1-Sepsis is the harmful systemic reaction to infection. •

2- severe sepsis: is the systemic response that result in hypo function •
of uninfected organs when an infectious etiology is proven or
suspected.

3-septic shock: sepsis accompanied by hypotension that cannot be •
corrected by infusion of fluids.

-**SIRS** (SYSTEMIC INFLAMMATORY RESPONSE SYNDROME)=TWO OR MORE OF THE FOLLOWING CONDITIONS:

1-fever more than 38c or hypothermia less than 36c. •

2-tachypnea:RR more than 24 bpm or arterial carbon dioxide tension (PaCO₂) of less than 32 mm Hg. •

3-tachycardia:HR more than 90 bpm. •

4-leukocytosis more than 12000 or leukopenia less than 4000 or more than 10% bands. •

What are the causes of sepsis?

Any infection can trigger sepsis, but the following types of infections •
are more likely to cause sepsis:

pneumonia •

Abdominal infection •

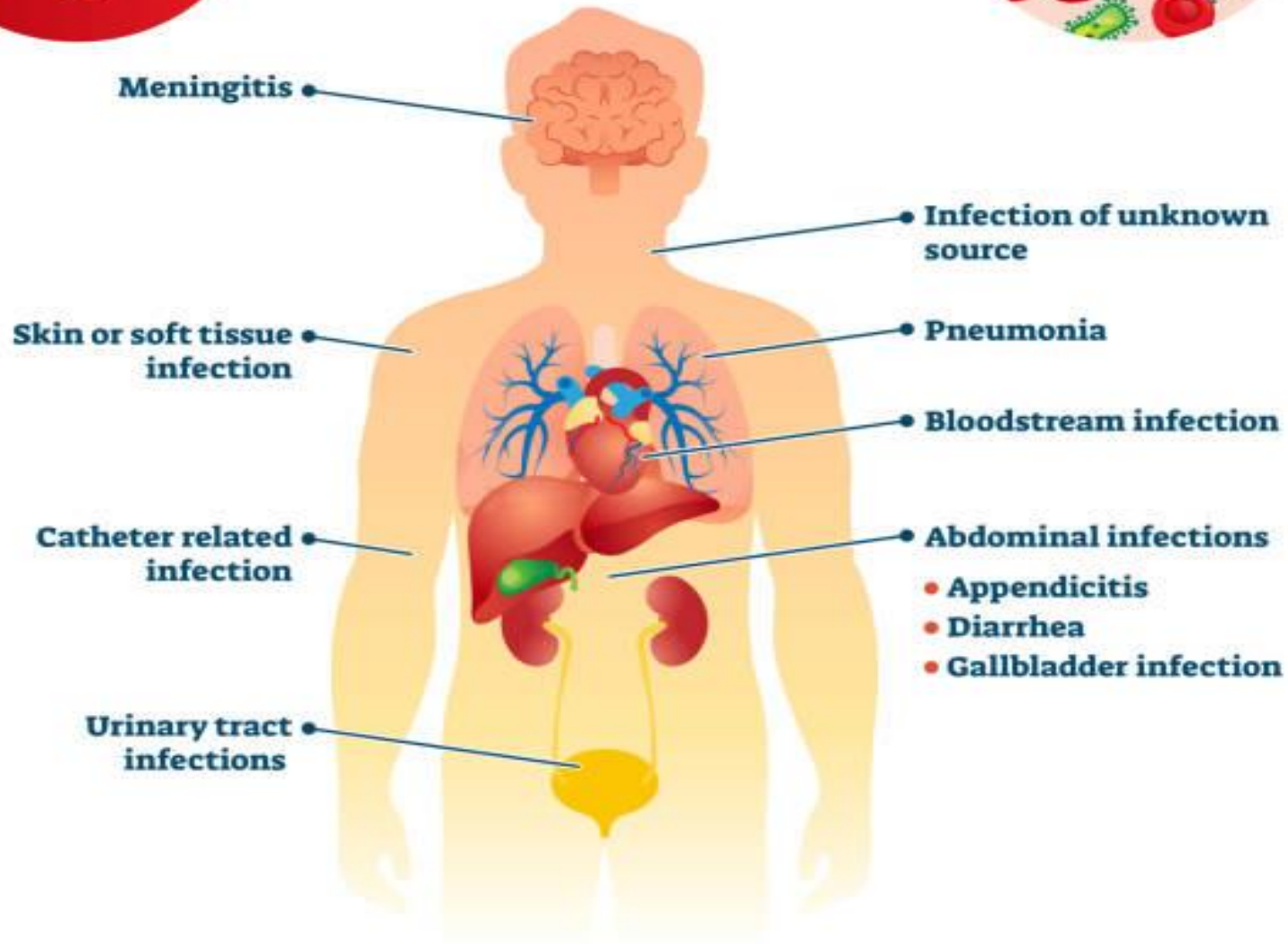
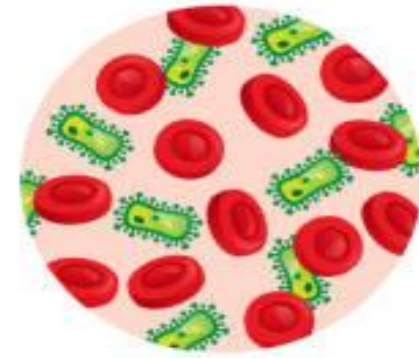
kidney infection •

bloodstream infection •



SEPSIS

Sepsis is a potentially life-threatening condition caused by the **body's response** to an infection



In general blood culture yield bacteria or fungi in only **20-40%** of cases of severe sepsis and **40-70%** of septic shock

1-gram -ve=40%(E-coli and pseudomonas are the most common).

2-31% gram +(staphylococcus aureus is most common).

3-fungi=6%.

4-polymicrobial =16%.

5-classic pathogens=less than 5%.

Risk factors for sepsis

1-longevity. •

2-preexisting comorbidity. •

3-immunosuppression. •

4-indwelling catheter and mechanical devices. •

Clinical manifestations

- 1- fever: might be absent in • elderly, neonates, alcoholism, uremia.
- 2- hyperventilation might be an early response causing • respiratory alkalosis.
- 3- encephalopathy especially in elderly might developed early • on : disorientation and confusion.
- 4- focal neurological signs are uncommon=specifically • preexisting focal deficits might become more worse.

G.I.T manifestations

1-nausea ,diarrhea ,vomiting and ileus=acute •
gastroenteritis.

2-stress ulceration –upper GIT bleeding. •

3-cholestatic jaundice with conjugated hyperbilirubinemia and •
elevated alkaline phosphatase might precede other signs of
jaundice.=reversible with resolution of infection.

4-prolonged or severe hypotension might induce ischemic bowel •
necrosis or acute hepatic injury.

Major complications

ACUTE LUNG INJURY OR ARDS developed in about 50% of •
sepsis or septic shock,

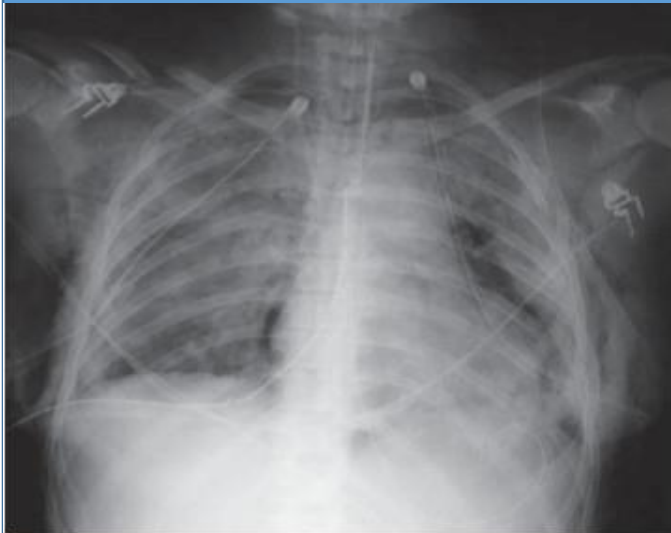


Fig. 10.14 Chest X-ray in acute respiratory distress syndrome (ARDS). Note bilateral lung infiltrates, pneumomediastinum, pneumothoraces with bilateral chest drains, surgical emphysema, and fractures of the ribs, right clavicle and left scapula.

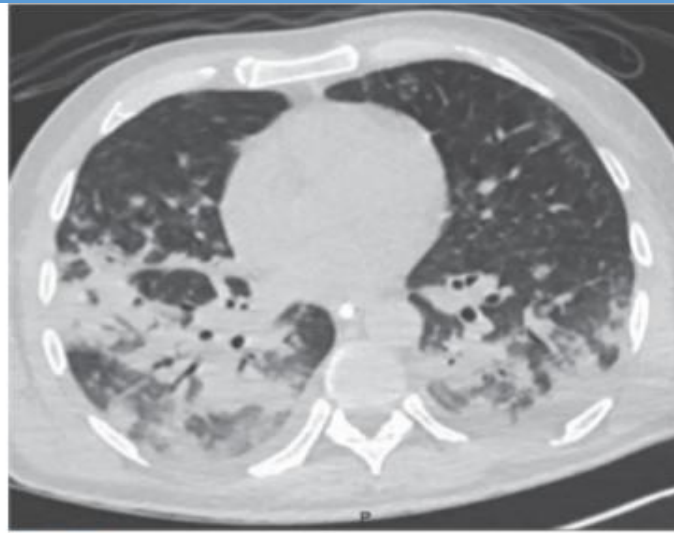


Fig. 10.15 CT scan of the thorax in a patient with severe ARDS. Note the pathology is mainly in the dorsal (dependent) parts of the lung.

What is your job

- 1- check blood pressure and o2 sat •
- 2- calculate RR and pulse rate •
- 3- take the temperature •
- 4-assessment of the conscious level •
- 5-send for blood investigations including CBC .RFT .LFT •
- 6-2 I V line •
- 7-close monitoring •
- 8-insert folys catheter •
- 9-send for chest x ray •
- 10-need ABG •
- 11-abdonial ultrasound or ct scan •



10.28 The 'Sepsis Six'

1. Deliver high-flow oxygen
2. Take blood cultures
3. Administer intravenous antibiotics
4. Measure serum lactate and send full blood count
5. Start intravenous fluid replacement
6. Commence accurate measurement of urine output



10.29 Early administration of antibiotics in suspected sepsis

- Broad-spectrum antibiotics should be administered as soon as possible after sepsis is suspected
- Every hour of delayed treatment is associated with a 5–10% increase in mortality

Thank you•