

## Pictorial Quiz

# Acral gangrene in sepsis

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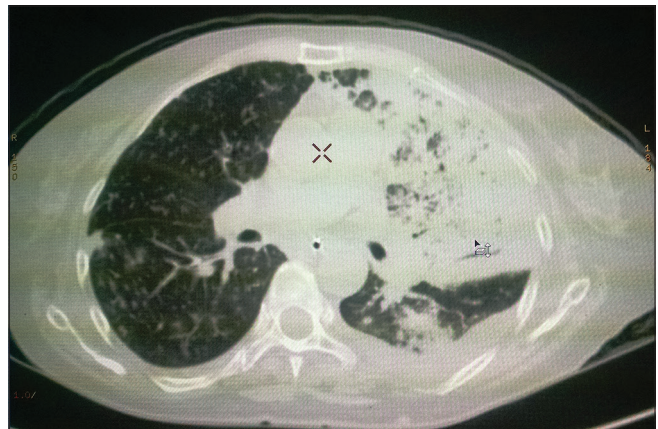
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### CASE DESCRIPTION

A 56-year-old female patient, a known diabetic without any other comorbidity, presented with complaints of fever with cough and expectoration for 4 days. On presentation, she was found to be hypotensive, hyporesponsive, and hypoxemic. Her chest x-ray and computed tomography (CT) of the thorax showed consolidation involving the left upper lobe [Figure 1]. She was intubated and mechanically ventilated and started on a high dose of vasopressors. From the third day of admission, she was found to have discoloration of the distal part of the fingers and toes. Endotracheal secretion, gram stain, and culture showed *Pneumococcus* and blood examination revealed features suggestive of acute kidney injury and disseminated intravascular coagulation (DIC). The blackish discoloration of the extremities increased progressively [Figures 2 and 3]. Arterial Doppler of the extremities showed decreased flow in the proximal arteries with absent flow in the distal arteries. Immunological markers were negative.

### QUESTIONS

- Q1: What is the diagnosis?  
Q2: What are the risk factors? What are the common microorganisms involved?  
Q3: What is the prognosis of the patient with such a condition?  
Q4: What is the line of management in such a case?



**Figure 1:** CT of the thorax showing consolidation of the left upper lobe



**Figure 2:** Bluish discoloration and gangrene involving the upper extremities of the patient

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## ANSWERS

**Answer 1:** The diagnosis is symmetrical peripheral gangrene or purpura fulminans. It refers to the symmetrical distal ischemic changes leading to gangrene of two or more sites in the absence of large vessel obstruction or vasculitis.<sup>[1]</sup>

**Answer 2:** The risk factors are sepsis, renal failure, use of vasopressors, disseminated intravascular coagulation, diabetes mellitus, immunosuppression, etc.<sup>[2]</sup> The common microorganisms involved are *Pneumococcus*, *Staphylococcus*, and *Streptococcus*. Due to bacterial endotoxin release, there is platelet plugging in peripheral arterioles with vascular collapse and disseminated intravascular coagulation leading to vascular compromise culminating in gangrene.

**Answer 3:** Symmetrical peripheral gangrene (SPG) is considered a devastating complication with high mortality. The mortality rate can be as high as 30% according to different series.<sup>[2]</sup>

**Answer 4:** No treatment is deemed universally effective. Treatment of the underlying cause is (e.g. septicemia) most important. Other treatment modalities that may be of benefit include intravenous vasodilators (nitroglycerin, nitroprusside, and prazosin), treatment of DIC, sympathetic blockade. Amputation of the gangrenous areas may be inevitable in some cases.<sup>[3]</sup>



**Figure 3:** Gangrenous changes in the lower extremities of the patient

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### Conflicts of interest

There are no conflicts of interest.

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