

HYPERVIRULENT KLEBSIELLA PNEUMONIA: THE NEXT SUPERGERM IN SOFT TISSUE INFECTION?

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INTRODUCTION:

Skin and soft tissue infections are infections caused by pathogenic bacteria that penetrate the epidermis, dermis, and subcutaneous tissues. Here we report a case of Hypervirulent Klebsiella Pneumoniae (hvKP) causing soft tissue infection complicated with Endogenous Endophthalmitis lead to loss of vision over left eye, lung emphysema and perianal abscess.

REPORT:

A 45-year-old man with not known medical illness came to our Emergency Department complaining of loss of vision over left eye, right foot pain and fever for 6 days. Physical examination of the right foot revealed swelling of the right foot extending to ankle joint, erythemaotus and tender on palpation (*Image 1*). Right foot and right ankle x-ray findings revealed scattered gas shadow over the ankle and right foot (*Image 2*).

Patient underwent multiple debridement of the right foot. Blood cultures were taken in the ward so do Tissue Culture was taken intraoperatively. Both Culture results revealed infection of klebsiella pneumonia. Patient then was planned for right below knee amputation to avoid further complications.



Image 1: Clinical pictures of right foot

hvKp is more virulent than classical K. pneumoniae (cKp) and capable of causing community-acquired infections, often in healthy individuals⁽¹⁾. hvKp also can cause deep tissue infection and present with clinical symptoms similar to gas gangrene⁽¹⁾.



Image 2: Right foot and Right ankle X-ray

hvKP was first reported in Taiwan in 1986⁽³⁾. It is associated with bacteremia and sepsis and has the unique propensity to cause metastatic infections in up to 20% of cases⁽⁴⁾ this often results in devastating complications including sight-threatening endophthalmitis, meningitis, and Necrotizing Fasciitis.

Parameter	Finding for pathotype	
	hvKp	cKp
Location for the development of infection	More commonly the community ²	More commonly a health care setting
Host	All ages; often otherwise healthy	Older, with some form of compromise
Ethnic background	Often Asian, Pacific Islander, Hispanic	No ethnic predilection
Hepatic abscess	Usually occurs in the absence of biliary disease	Usually occurs in the presence of biliary disease
Number of sites of infection	Often multiple	Usually single
Unusual infectious syndromes for K. pneumoniae	Endophthalmitis, meningitis, ⁶ brain abscess, necrotizing fasciitis, splenic abscess, epidural abscess	None
Copathogens at the site of infection	Rare, usually monomicrobial	Not uncommon, especially with abdominal, soft tissue, or urinary catheter infection

Table 1: The characteristics of hvKp and its differences from cKp⁽³⁾

CONCLUSION:

hvKP is a severe soft tissue infection and best described as a virulent pathogen⁽³⁾. Multiple debridement could not help in improving patient condition hence early amputation is essential to prevent complications.

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