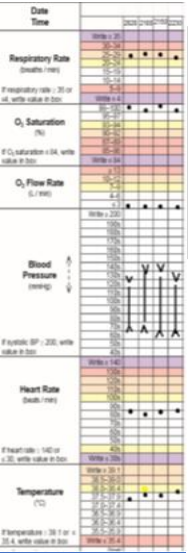
Atypical sepsis presentation from a zoonotic pathogen

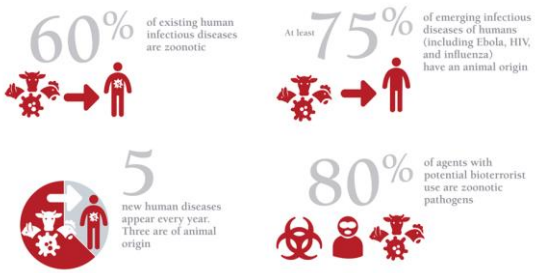
Research on validity of sepsis screening tools in an elderly patient with beta blockade resulting in an atypical response to an uncommon pathogen.



ISTAT	Results
Lactate	2.77
pH	7.39
pCO2	38
HCO3	23
BE	-2
Na	133
K	3.8
Cl	93
Urea	5.6
Crea	87
eGFR	52
BGL	11.3

Background: Human infection with Streptococcus equine zooepidemicus is uncommon (1.4% infections with group C streptococci)[1]. Studies have indicated it is an opportunistic pathogen in horses but can lead to severe infections in humans and it should be recognised as an emerging zoonosis[2]. This pathogen has been shown to invade human epithelial cells through different uptake mechanisms including cutaneous and respiratory[3].

In early sepsis the adrenergic response increases contractility and heart rate to meet metabolic demands. Conversely the use of beta blockers (in this case Metoprolol) can limit this sympathetic response to infection[5]. Patient did not meet SIRS criteria as HR was not >90 and temperature was <38°(WCC not available)[8]. Sepsis screening tools SIRS/SOFA require bloods that may not be readily available in rural areas (platelets, LFTs and WCC). The febrile response in the elderly is often deficient even in patients with bacteraemia and studies have shown that the clinical manifestations of sepsis are different in patients >65 years with less vital signs alteration[10]. Beta blockade and age related temperature response was taken into account and the patient was considered to have SIRS >2 and suspected source of infection. This prompted evaluation of serum lactate and patient met criteria for severe sepsis. Early identification, source control, and prompt antimicrobial therapy were initiated as per current guidelines[11].



Conclusion: Limited testing, age >65 and the presence of beta blockade impacts sensitivity of SIRS/sepsis criteria. Tachypnoea was the trigger for investigation and subsequent treatment for sepsis. Rural areas require consideration of a zoonotic pathogen and vigilance in people with exposure to stock. Patient cultures were positive for Strep. equine zooepidemicus and was in ICU for 6 days and discharged after 2 weeks.

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