

Klebsiella pneumoniae Liver Abscess: a Case Series of 2 Patients Presenting Over a 12-Week Period in a Tertiary Referral Centre

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Background

Klebsiella pneumoniae (KP) is a recognised cause of community-acquired mono-microbial pyogenic liver abscess (PLA). Initially identified in Asia, KP now accounts for a large proportion of PLA in Europe and the United States. Unlike other PLA, *Klebsiella* liver abscesses (KLA) are more often cryptogenic and may be caused by hyper-virulent strains of the bacteria which have a higher resistance to phagocytosis by neutrophils.

Methods

Clinical data about patient demographics, presentation, investigation and management was extracted from electronic and written patient records.



Image 1. *Klebsiella pneumoniae*

Case 1

A 40-year-old Chinese woman, resident in Ireland a decade, presented with a three-week history of intermittent fevers and dry cough. Her past medical history was unremarkable. The patient had been swabbed for COVID-19 in the community with a negative result. She was admitted with a presumed lower respiratory tract infection under the COVID pathway and underwent radiological investigation for a suspected pulmonary embolus. Cross-sectional imaging revealed an incompletely

visualised liver lesion, concerning for a hepatic abscess. Dedicated contrast-



Image 2. CT scan of patient 1 demonstrating liver abscess

Enhanced computed tomography (CT) showed an 11 cm enhancing lesion, most consistent with an abscess. The lesion was drained under radiological guidance. Microscopy and culture identified a highly-sensitive KP, only resistant to amoxicillin, with a mucoid appearance. The patient underwent treatment with 14 days of intravenous (IV) ceftriaxone and four weeks of oral co-amoxiclav with an excellent clinical outcome.

Case 2

A 58-year-old Zimbabwean man, resident in Ireland for three years, presented with a 24-hour

history of rigors, shortness of breath and epigastric/chest pain following a recent course of antibiotics for a soft tissue infection of the lower limb. His background history was significant for diabetes and alcoholic cirrhosis. A CT abdomen-pelvis performed on admission revealed an enhancing 6.4 cm hepatic lesion, consistent with an abscess. Ultrasound-guided aspiration of the lesion grew KP, resistant to amoxicillin. This patient received 14-days of piperacillin-tazobactam and has been rationalised to IV co-amoxiclav at present. Genetic testing of these samples is underway for markers of hyper-virulent KP strains.

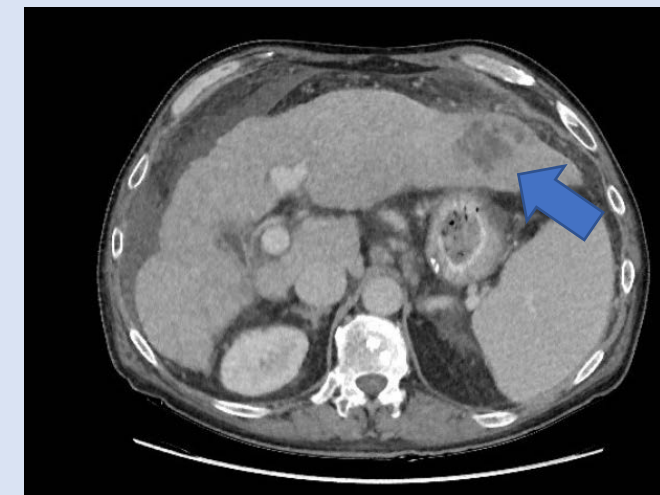


Image 3. CT scan of patient 2 demonstrating liver abscess in segment II

Conclusion

Initially identified in Asian populations, KP is now a significant pathogen in mono-microbial liver abscesses in Europe. Risk factors demonstrated in these cases include Asian ethnicity, diabetes and recent antibiotic use. Our cases illustrate how these infections can present atypically, highlighting the importance of a broad differential in an undifferentiated patient.

References

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ACKNOWLEDGEMENTS

Image 1 Credit to Dr Rachel Barry Microbiology SPR CUH, many thanks.