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INTRODUCTION

- *K. pneumoniae* is a gram-negative organism that is a known cause of pyogenic liver abscess (PLA). Invasive liver abscess syndrome (ILAS) occurs when *K. pneumoniae* causes PLA in the absence of hepatobiliary disease.

- ILAS can sometimes include metastatic spread that most commonly results in endophthalmitis or meningitis, as well as other infectious sequelae.

- Although *K. pneumoniae* PLA is an endemic disease in Southeast Asia, it is now seen throughout the world and should elicit greater awareness as one of the common causes of PLA in the United States.

CASE DESCRIPTIONS

CASE 1: A 36-year-old Caucasian male with no past medical history presented with complaints of fever associated with nausea and non-bilious vomiting as well as right eye blurriness. Labs revealed leukocytosis, transaminitis, and blood cultures that grew *K. pneumoniae*. Physical exam revealed RUQ tenderness and episcleritis with 20/200 OD. CT A/P revealed a left hepatic lobe abscess measuring 7x4x4 cm. The liver abscess was drained by IR, Ceftriaxone IV was given for 2 weeks and changed to oral Cefpodoxime for 3 weeks, and intraocular injections of Ceftazidime and Vancomycin were administered.

CASE 2: A 62-year-old Asian male with no past medical history presented with complaints of fever associated with abdominal pain and left eye burning. Labs revealed leukocytosis transaminitis, and blood cultures that grew *K. pneumoniae*. Physical exam revealed generalized abdominal tenderness and episcleritis OS. CT A/P revealed a right hepatic lobe abscess measuring 9x6x9 cm. The liver abscess was drained by IR, Ceftriaxone IV was given for 2 weeks and changed to oral Cefpodoxime for 4 weeks.



- Contrast-enhanced CT of the abdomen demonstrating a complex lesion in the left hepatic lobe (7x4x4 cm).



- Inflammation of the episclera indicative of episcleritis.

DISCUSSION

- Although liver abscesses most commonly occur with hepatobiliary disease, ILAS from *K. pneumoniae* is a potentially life-threatening infection and associated with significant morbidity and mortality that can occur without any hepatobiliary disease.

- These patients demonstrate rare cases of *K. pneumoniae* causing ILAS with metastatic infectious sequelae consistent with endophthalmitis that occurred in the setting of no known predisposing medical risk factors.

- ILAS was once commonly thought to occur typically in males and isolated in Southeast Asia, but are now seen in all sexes across the world and becoming increasingly common in the US.

- Diabetes mellitus tends to be associated with *K. pneumoniae* PLA, and the disease process also tends to be more invasive with metastatic spread to other organs, thereby leading to sepsis.

- Endophthalmitis is the most common infectious sequelae and is specifically associated with more virulent strains of *K. pneumoniae* as well as DM.

- ILAS should be part of the differential diagnosis of liver mass in the setting of sepsis, and early drainage and antibiotic administration is essential to decrease morbidity and mortality.

CONCLUSION

- Although a higher index of suspicion should be held for Southeast Asian diabetic males, the incidence of ILAS in all demographics is increasing, which should elicit greater awareness of risk factors, pathogenesis, and management.