Case Report of Community Acquired Methicillin-Resistant *Staphylococcus aureus* Liver Abscess in a 38-Year-Old Immunocompetent Male With No Comorbidities

Patel Dhruvanshu MD; Bajwa Arouj MD; Ankola Mihir MBBS; Chaput Kimberly MD, Jahre Jaffrey MD
St Luke's University Health Network

ABSTRACT

Hepatic abscess is a rare disease, especially in developed countries, and usually results from microbial contamination of liver parenchyma via an arterial or portal system or from a direct spread by contiguity. We report such a case of 38-year-old man who present to the hospital with right upper quadrant pain and fever with no significant co-morbid condition who was found to have community acquired methicillin resistant *Staphylococcus aureus* (MRSA) liver abscess treated with percutaneous drainage and intravenous daptomycin. To our knowledge this case is only the third case of community acquired MRSA liver abscess in United States demonstrating the increasing threat posed by this multidrug -resistant organism. This case also suggests that a different epidemiology and route of infection may apply to community-acquired MRSA liver abscesses in contrast to the more common pyogenic liver abscesses.

CONTACT

Dhruvanshu Patel, PGY-3
St Luke University Heath Network
Email: Dhruvanshur.patel@sluhn.org
Phone: 4843731715

INTRODUCTION

Pyogenic liver abscess (PLA) is a rare entity with annual incidence between 2.3 to 3.6 per 100,000 population in United States and Canada. Less than 10% of all PLA infections are caused by Staphylococcus aureus and very rarely by community acquired methicillin-resistant Staphylococcus aureus (MRSA). Herein, we present a rare case of PLA in a young immunocompetent 38-year-old man with no comorbidities, to our knowledge is only the third case of community-acquired MRSA reported in the United States. [1,2]

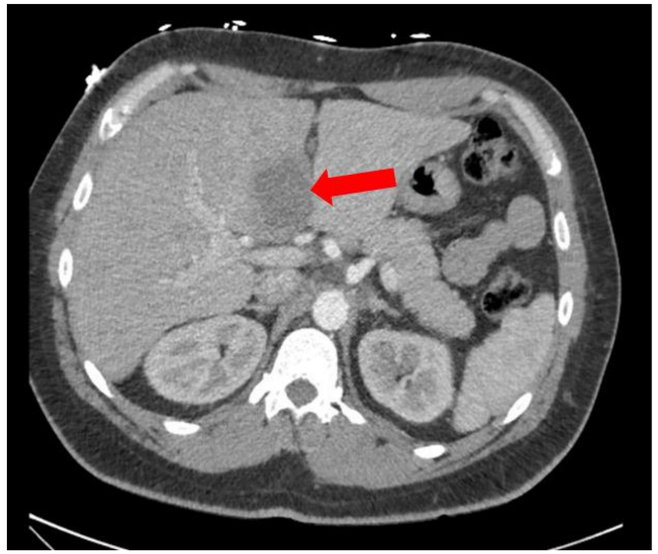

Fig:1 CT scan shows Hypo enhancing lesion in right hepatic lobe (red arrow)

CASE DESCRIPTION

A 38-year-old immunocompetent, non-diabetic Caucasian man with past medical history of hypertension presented with 3 days of fever, jaundice, and right upper quadrant (RUQ) abdominal pain. Denies any recent travel, diarrhea, weight changes, alcohol, or intravenous drug history. He reported having leg infection 2 months prior to presentation which was treated with oral antibiotics. Physical examination showed presence of fever, jaundice, and RUQ tenderness. Blood tests revealed neutrophilic leukocytosis, direct and indirect bilirubinemia, elevated inflammatory markers, normal liver enzymes and alkaline phosphatase with sterile blood culture. Imaging revealed 4.4 x 2.7 x 3.1 cm right liver lobe abscess (Figure 1) without any intra-abdominal source of infection. He was managed with Ultrasound (US) guided percutaneous drainage along with intravenous (IV) daptomycin followed by oral doxycycline for a total duration of 8 weeks based on cultures and sensitivities. Transthoracic echocardiogram did not show any vegetations. He was found to have complete resolution of abscess with significant improvement in general condition on follow-up imaging.

DISCUSSION

PLA is an uncommon cause of hospitalization and potentially life-threatening disease caused by enteric and anaerobic species of bacteria. Risk factors like diabetes mellitus, liver transplant, malignancy, hepatobiliary or pancreatic diseases are typically present. Men are usually more affected with predominant involvement of right lobe of liver. The mode of pathogenesis is usually by direct liver injury or hematogenous spread of bacteria via portal vein and rarely through hepatic artery. Symptoms like fever, chills, RUQ pain with lab tests showing low albumin, leukocytosis, elevated liver enzymes and bilirubinemia commonly present. CT with contrast or US are the imaging modality of choice, these can also be used for image guided treatment. The mainstay of treatment of a liver abscess is drainage and appropriate systemic antibiotics.

CONCLUSION

This case stresses the importance of considering MRSA infection in your differential and benefit of drainage and culture of aspirate to identify causative organisms promptly so that targeted antibiotic treatment can be given to decrease morbidity and mortality associated with this condition.

REFERENCES

1. Community-acquired methicillin-resistant pyogenic liver abscess: a case report. Cherian J, Singh R, Varma M, Vidyasagar S, Mukhopadhyay.
2. A community-acquired methicillin-resistant Staphylococcus aureus liver abscess. Vivien W Y Wong, Y S Cheung, John Wong, K F Lee, Paul B S Lai.