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Introduction

Lemierre's syndrome (LS) is a complication of *Fusobacterium* species associated tonsillar abscess with subsequent progression to internal jugular vein septic thrombosis. We present a rare case of GI variant of LS with *Fusobacterium nucleatum*-associated liver abscesses, associated partial splenic vein and portal vein pylephlebitis in an immunocompetent adult male patient.

Case Report

A 51-year old Gulf War veteran presented to the emergency department with a two week history of abdominal pain, abdominal distension, nausea and intermittent chills.

Magnetic resonance imaging (MRI) of the abdomen revealed hepatomegaly with innumerable multiseptated cystic hepatic masses and an associated portal vein thrombosis [Figure 2].

Patient was initiated on broad spectrum antibiotics and therapeutic intravenous heparin. Initial CT-guided liver biopsy was unrevealing. A 16S PCR sent for next generation sequencing from the aspirate returned positive for *Fusobacterium nucleatum*.

The patient did not show clinical improvement and unfortunately passed away due to cardiac arrest.

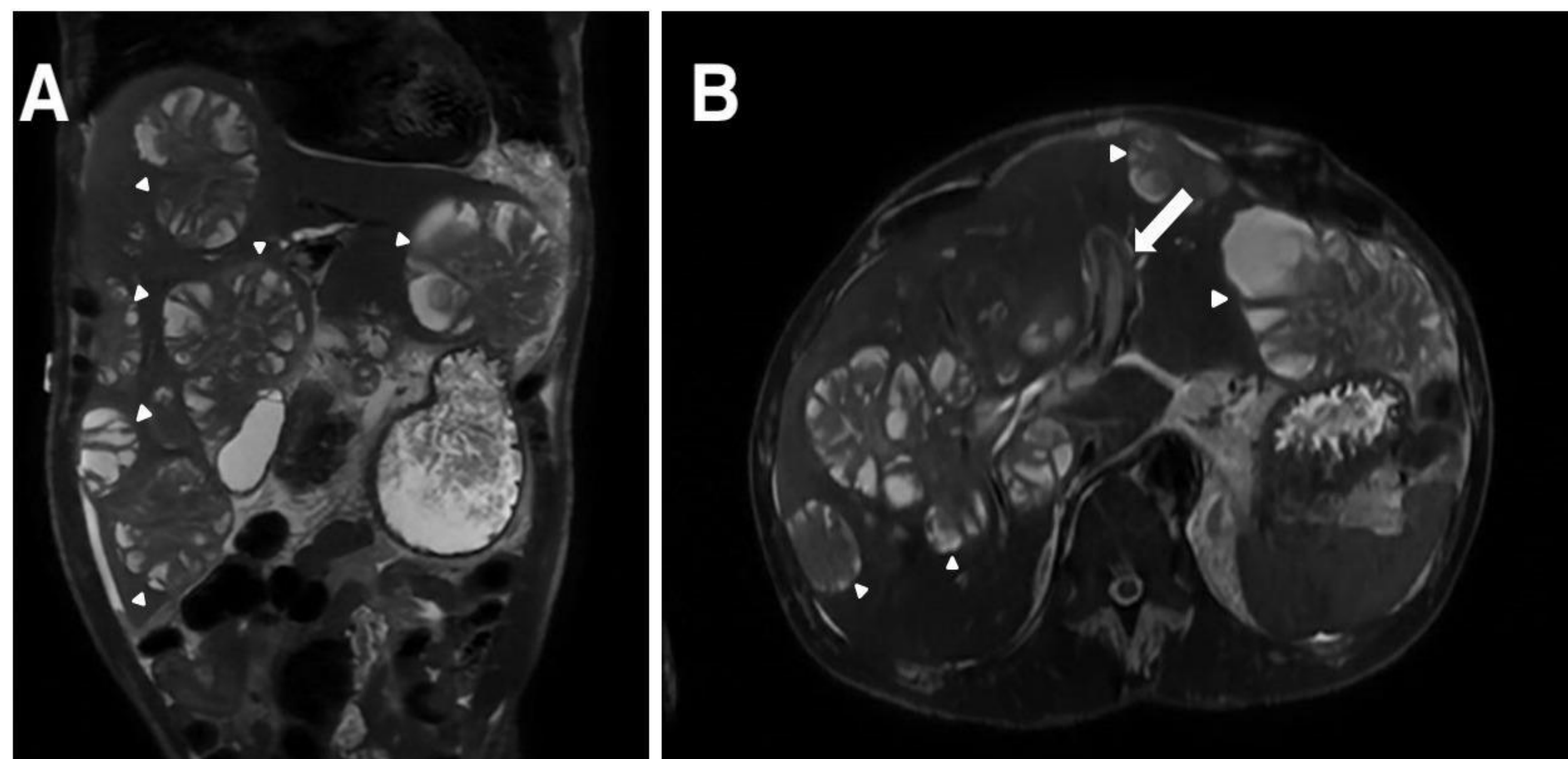


Figure 1: MRI of the abdomen, showing numerous lesions throughout the grossly enlarged liver by white arrowheads (A). White arrows point to an area of increased attenuation within the portal vein indicative of thrombus (B).

Discussion

Fusobacterium nucleatum is a rare cause of pyogenic liver abscess (PLA) with only 20 cases reported in literature, of which 15 patients are described as immunocompetent.

Potential sources for *Fusobacterium nucleatum* hepatic abscesses are GI tract, recent pharyngitis, periodontal disease and cryptogenic. Risk factors are male gender, diabetes mellitus, malignancy, liver transplantation, biliary tract procedures, alcohol-use disorder, cirrhosis, renal failure, immunosuppression, dialysis, advanced age [1].

The gold standard for diagnosis of PLA is fine needle aspiration for culture, however aspirate cultures are positive in only 70-80% of cases.

Discussion Continued...

Pyogenic liver abscesses have an estimated incidence of approximately 3.6 per 100,000 population in the United States, with a mortality risk between 2 and 12%.

Fusobacterium cause a unique GI variant of LS presenting with an intra-abdominal infection and associated septic thrombophlebitis of the portal venous system known as pylephlebitis

The thrombogenic nature of *Fusobacterium* species is explained by their ability to activate the intrinsic pathway of coagulation via the human Hageman factor (Factor XII), incite platelet aggregation, and display hemagglutination activity on human erythrocytes [2].

There is no clear role of anticoagulation in the treatment of the GI variant of LS.

Conclusion

Fusobacterium species are a rare cause of intra-abdominal infections, including a rare GI variant of Lemierre's syndrome which presents as septic thrombophlebitis of the portal venous system.

We provided this case report to increase awareness of this rare presentation and to add knowledge to the literature about its diagnosis and available treatment options.