

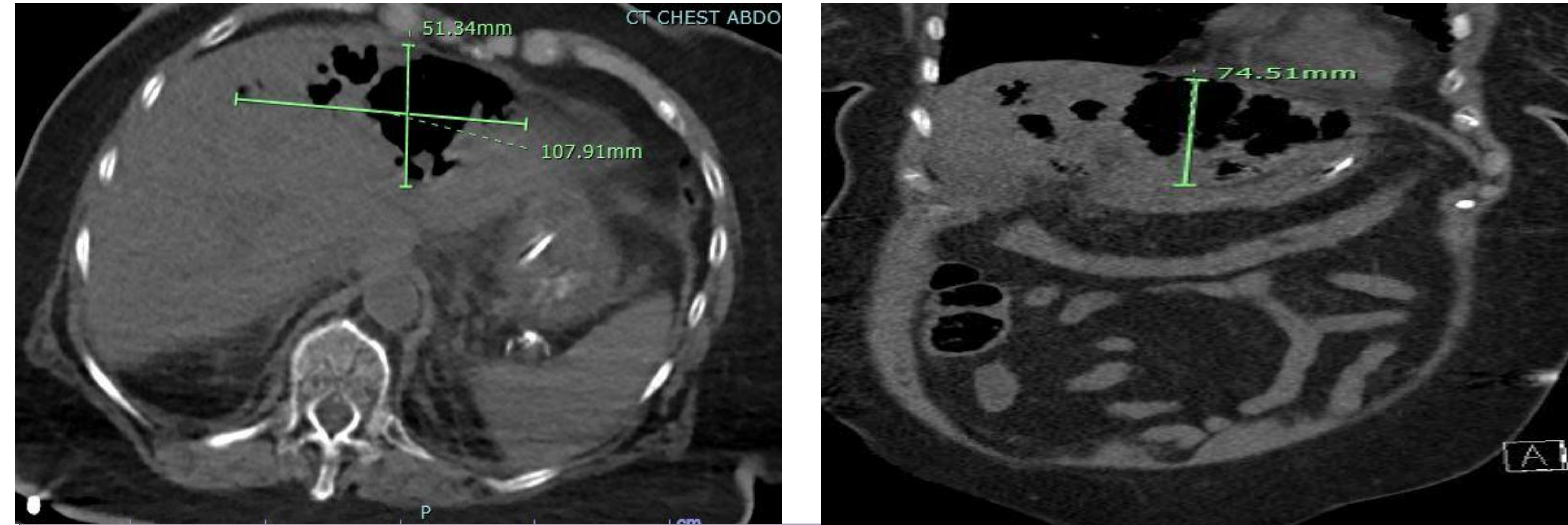
INTRODUCTION

Pyogenic liver abscess caused by Clostridium Perfringens is a rare, but a rapidly fatal infection. Clostridium Perfringens septicemia with intravascular hemolysis is a catastrophic process with a reported mortality of 70 -100 %⁽¹⁾, therefore making prompt diagnosis and early aggressive management critical.

CASE REPORT

- A 75-year-old female with intellectual impairment, type two diabetes mellitus, hyperlipidemia and hypertension who presented with a one-day history of fatigue, poor oral intake and one episode of emesis. There was no reported fevers, chills, night sweats, abdominal pain, diarrhea, exposure to sick contacts or recent travel.
- On presentation the patient was febrile (101.4 F), hypotensive (65/49 mmHg) and tachycardic (123 beats per minute). She appeared diffusely icteric, fatigued, had prominent bilateral scleral icterus and conjunctival pallor.
- Abdominal exam did not reveal any distension, tenderness, guarding or rigidity. Bowel sounds were audible in all four quadrants and there was no palpable ascites or hepatosplenomegaly.
- Multiple lab draws returned hemolyzed except for serum lactate which was initially 8.0 mmol/L. Arterial blood gas returned with a pH of 7.21 and PCO2 of 29. A non-contrast computed tomography (CT) scan of the abdomen revealed air lucency in the liver (Figures).

RADIOLOGY



Figures showing CT of Abdomen and Pelvis demonstrating hepatic abscess with air lucency

HOSPITAL COURSE

- The patient was intubated due to worsening lethargy and hypoxia. She was also started on vasopressor support and broad-spectrum antibiotics with IV Vancomycin, Cefepime and Flagyl.
- Immediate CT-guided aspiration of the abscess with drain placement was performed and the patient was transfused with multiple units of packed red blood cells in the setting of persistent hemolysis with worsening hypotension.
- Repeat blood draw showed worsening lactic acidosis (lactate of 19 mmol/L and pH of 6.96) despite receiving multiple bicarbonate injections and an infusion of sodium bicarbonate.
- The patient was deemed too unstable for renal replacement therapy and went on to develop rapid refractory shock and acidosis followed by cardiac arrest.
- She did not receive cardiopulmonary resuscitation as per the family's wishes and eventually passed away.
- Blood and abscess cultures later returned positive for Clostridium Perfringens.

CONCLUSIONS

- Amongst prior reported cases of C. Perfringens liver abscess, 30 % had Diabetes Mellitus, 20% had advanced cancer and 15 % had cirrhosis including two who were liver transplant recipients on immunosuppressive therapy ⁽²⁾.
- This indicates a possible immune deficient state being a causative factor. The main toxin of the bacteria is a lecthinase (α toxin) that splits lecithin of red cell membrane leading to massive intravascular hemolysis.
- Given the high mortality, index of suspicion should be very high in at-risk patients presenting with fever, unexplained hemolysis, and gaseous abscess on imaging.
- Early surgical intervention has been shown to be the most effective mode of treatment.

REFERENCES

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