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CLINICAL IMAGE

Extensive involvement of liver parenchyma in emphysematous cholecystitis

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ABSTRACT

Emphysematous cholecystitis is an uncommon variant of acute cholecystitis caused by gas producing organisms. Only 18-20 cases have been reported in English literature until January 2013. Herein, we present images of computed tomographic scans of a 60-year-old female suffering from abdominal pain and was diagnosed as having acute emphysematous cholecystitis with extensive liver parenchymal involvement. The extensive liver involvement our patient with emphysematous cholecystitis urged us to report this case.

Key words: Computed tomographic scan, emphysematous cholecystitis, gas, liver parenchyma

A 60-year-old female presented to our emergency room with upper abdominal pain for 2 days. On initial examination, patient was conscious, oriented, and febrile. Her vitals were stable except for tachycardia. Her abdomen was tender with pain localized to the right upper quadrant. Routine laboratory investigations revealed normal hemoglobin with markedly raised leukocyte count (38,000/mm^3 mainly polymorphs). Patient's liver function test showed deranged values of total serum bilirubin at 3.4 (normal: 1.0), serum glutamic pyruvic transaminase at 1570 (normal <40), serum glutamic oxaloacetic transaminase 1200 (normal <40) and serum alkaline phosphatase 500 (40-150). Renal function test and serum amylase/lipase levels were within their normal range. An abdominal ultrasound showed the presence of gas in the right lobe of liver and gall bladder, pointing suspicion toward a ruptured liver abscess or an emphysematous cholecystitis. A computed tomographic (CT) scan of her abdomen showed distended gall bladder filled with air and ill-defined lesion with irregular margins [Figure 1], in addition to thick attenuation collection. Air was observed in the liver at segments IV, V, VI, and VII and the lesion was seen to be communicating with the gall bladder [Figure 2]. Owing to these imaging findings, especially CT scan, a final diagnosis of emphysematous cholecystitis with extensive liver involvement was made. Following treatment with broad spectrum antibiotics for 14 days, patient was discharged. Follow-up was done every 2 weeks for a period of 3 months, after which cholecystectomy was advised; however, patient refused surgery. Gall bladder emphysema resolved after 14 days antibiotic therapy. Presently, she is having no complaints and she is doing well.

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Emphysematous cholecystitis is a rare variant of acute cholecystitis with infection by gas producing organism. This condition was first demonstrated by Lobingier in 1908 [1].

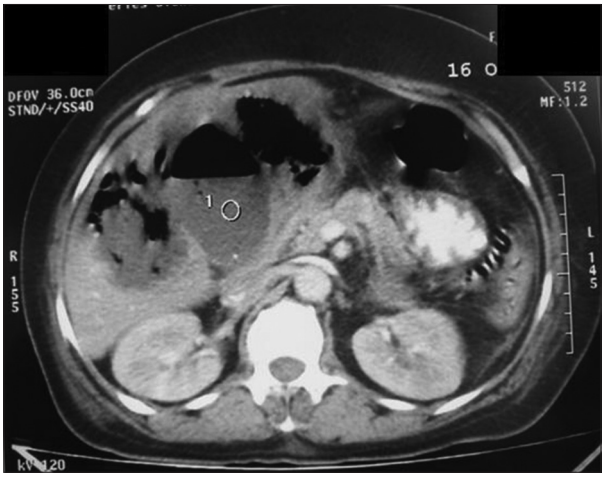

Figure 1 Over distended gall bladder with air

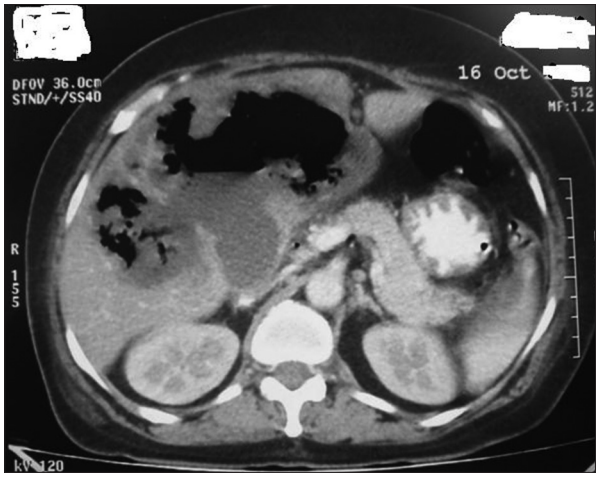

Figure 2 Extensive involvement of liver parenchyma (segment IV, V, VI, and VIII)

Only 18 such cases have been reported in English literature until January 2013 [2]. Diagnosis relies mainly upon demonstration of gas within the lumen or the wall of the gall bladder by imaging modalities like the ultrasound or a CT scan of the abdomen [3]. It usually presents as gas in the gall bladder with subtle involvement of the liver; however, the extensive liver parenchymal involvement as seen in our case [Figure 2] is unusually rare and urged us to report this case. From our experience with this patient, we recommend that cases of cholecystitis with extensive liver involvement or extensive liver abscess should be suspected for emphysematous cholecystitis.

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Author's Contribution

All authors contributed in collection of data, writing manuscript, revising manuscript, searching literature and editing manuscript.

Competing Interest

The author(s) declares that he has no competing interests.

Consent

The authors certify that a written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the editor-in-chief of this journal.

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