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Case Report

Gallstone Ileus; the Radiographic Findings in an Elderly Patient: A Case Report

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Abstract

Since the beginning of the COVID-19 pandemic in December 2019, Ivermectin has been proposed as an alternative for prophylaxis and treatment of COVID-19 infection despite the lack of evidence and clinical trials recommending its use. In this study, we report the case of a 52-year old Filipino male with newly diagnosed diabetes mellitus who developed a subacute history of fever, cough and generalized weakness, causing him to self-medicate with supratherapeutic doses of Ivermectin and thereafter subsequently developed decrease in sensorium, restlessness and complex visual hallucinations. Significant laboratory examinations showed hyperglycemia, mild hyponatremia, positive SARS-CoV2 reverse transcriptase polymerase chain reaction test and bilateral pneumonia on chest radiograph. He was subsequently started on antibiotics, high flow nasal cannula and given two doses of activated charcoal. During the first 24 hours of hospital admission, there was significant improvement in the patient's sensorium with resolution of restlessness and visual hallucinations. During the rest of the hospitalization, his respiratory symptoms had improved and he was subsequently discharged. Clinical outcome in our patient after administration of activated charcoal and completion of antibiotics showed an overall improvement in symptoms and without any neurologic sequelae.

Keywords: gallstone; radiographic; ileus; findings

Introduction

Gallstone ileus is a mechanical intestinal obstruction due to gallstone impaction within the gastrointestinal tract, and responsible for less than 1% of cases of intestinal obstruction [1].

Gallstone ileus has shown a constant incidence of 30-35 cases/1000000admissions over a forty-five-year period and develops in 0.3-0.5% of patients with cholelithiasis [1-3].

Gallstone ileus is predominantly a geriatric disease, and as many as 80-90% of patients have concomitant medical illnesses which include hypertension, congestive cardiac failure, diabetes, chronic pulmonary disease and annemia [1,4].

This condition has predilection for older female subjects with cholelithiasis over their male counterparts [4,5].

Gallstone ileus has nonspecific symptoms and sign, most patient do have signs of acute cholecystitis preceding symptoms and signs of intestinal obstruction which may be partial or complete [1,6,7].

Plain abdominal radiographs are important in establishing the diagnosis of gall stone ileus, in 1941, Rigler et al [8] described four radiographic signs of gallstone ileus, these are; partial or complete intestinal obstruction, pneumobilia or contrast material in the biliary tree, an aberrant gallstone and change of position of the gallstone on serial films.

The presence of two of the three first radiographic signs has been considered pathognomonic and has been found in about 20-50% of cases [1,9,10].

Case Report

This is a case of a 68year old farmer who was referred from a health facility in the neighboring settlement for chest and abdominal radiographs

on account of abdominal pain, abdominal swelling and discomfort, restlessness, vomiting, constipation, easy fatigability, excess sweating and restlessness. These were preceded by frequent history of right upper quadrant colicky abdominal pain and discomfort with occasional vomiting especially after fatty meals and milk containing feeds raising a suspicion of cholecystitis.

He had a working diagnosis of severe chest infection with suspected cardiopulmonary congestion on background hypertension from the referral centre.

The patient presented without his laboratory test results that was earlier done in the referral centre, we had no idea of the laboratory findings.

Plain chest and abdominal radiographs were done immediately after presentation that showed cresenteric lucencies beneath both diaphragms suggesting pneumoperitoneum (figure 1), bilobed radiopacities that changed positions on serial films denoting gallstone, lucencies tracking beneath the 10-12th ribs laterally representing pneumobilia, distended bowel loops and air-fluid levels in the right and left hemi-abdomen suggesting intestinal obstruction; see figures 2 and 3.

The patient was rushed back to the referral hospital, we later got the information from a relative that the patient had an emergency exploratory laparotomy with cholecystectomy, he got better afterwards and was discharged home after two weeks of hospitalization.

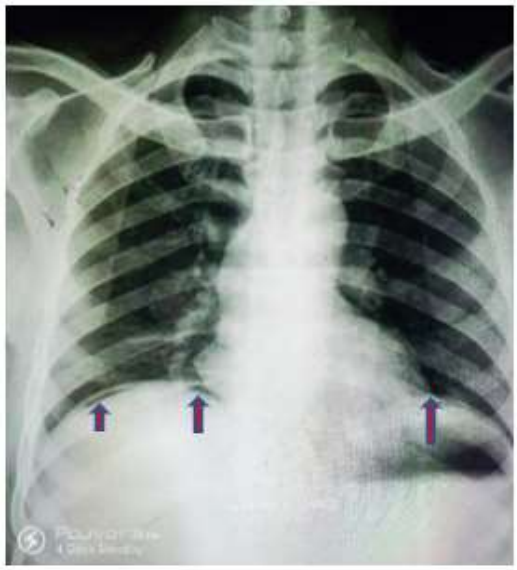

Figure 1: Erect chest radiograph showing cresenteric lucencies beneath the right and left diaphragms (three red up-arrows) denoting pneumoperitoneum also a pathognomonic feature of gallstone ileus.

The heart size is normal and the lung fields are clear. Degenerative changes involving the bony thorax is also demonstrated.

Figure 2: Plain abdominal radiograph supine view showing the bilobed radiopacity (gallstone; a pathognomonic feature of gallstone ileus; left blue arrow) left laterally, with dilated bowel loops (yellow up-arrow), the dilated bowel in the upper abdomen centrally is likened to the football sign of intestinal obstruction (left yellow arrow).

Track of lucency beneath the distal three ribs right laterally is most likely the pneumobilia (three up-red arrows). Note the bilobed radiopacity is slightly above the left iliac bone.

Figure 3: Erect view of the plain abdominal radiograph showing two air-fluid levels in the right hemi-abdomen (right yellow arrows), ground-glass opacity in the lower abdomen (left red arrow) and the bilobed radiopacity now lying on the left iliac bone (left blue arrow); it has changed position conforming to one of the pathognomonic signs of gallstone ileus.

The demonstrated bones show features of degeneration further confirming the incidence in the aged individual/population.

Discussion

Gallstone ileus is a disease of the elderly and more frequently seen among the female subjects, the index case is a 68-year-old conforming to that reported in the literature but happens to be a male patient contrary to the documented prevalence in the female gender.

Most literatures document the preceding features of symptoms of cholecystitis in individuals with gallstone ileus, the index case also had features highly suggestive of cholecystitis conforming to that documented in the literature.

Patients presenting with features of gallstone ileus do occasionally have associated ailments like hypertension, diabetes mellitus to mention a few, the index case was a diagnosed hypertensive case further conforming to that documented in most literatures.

The classical presenting features of abdominal pain and discomfort, abdominal distension and associated features of intestinal obstruction are those documented in the literature, the patient also presented with these features conforming to the literatures.

Plain radiograph goes a long way in establishing the diagnosis of gallstone ileus as mentioned by most researchers, the index case was also diagnosed following clinical presentation and plain abdominal and chest radiographs conforming further to that documented in the literature.

The classical radiographic features and finding of distended bowel loops, gallstone that changes position on serial films, pneumobilia and free intraperitoneal air with air-fluid levels are those documented in the literatures, these plain radiographic findings were also demonstrated in the index case conforming to that documented in the literature.

Patients with gallstone ileus do have surgical intervention as a treatment modality as documented in the literature, the index case also had surgical operation; exploratory laparotomy with cholecystectomy as treatment option further conforming to most literatures.

Conclusion

Plain radiographic examination of the chest and abdomen plays vital role in making diagnosis of gallstone ileus among elderly subjects with features of cholecystitis and intestinal obstruction in our environment.

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