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Clinical Image

CLINICAL IMAGE

Air in the portal vein: where computed tomography saved a patient's life

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A 61-year-old African-American female patient presented with altered mental status. Medical history is significant for end stage renal disease on hemodialysis, hypertension, chronic obstructive pulmonary disease, history of intravenous drug abuse and left ankle fracture 1 week prior to presentation. Vital signs were significant for hypoxia and hypotension. Further history obtained from the family was remarkable for right lower abdominal pain that started 3 h prior to presentation.

Computed tomography (CT) of the abdomen with intravenous contrast showed multiple air densities seen in left hepatic lobe (Figs 1 and 2). Also it showed evidence of pneumatosis intestinalis. Lactic acid was 0.9 (reference range 0.5–2.2 mmol/l). Patient underwent emergent exploratory laparotomy with subtotal colectomy. Patient recovered after 10 days and was discharged home.

Hepatic portal vein gas (HPVG), a radiologic sign first described in infants with necrotizing enterocolitis, is associated with numerous abdominal pathologies. Most commonly, bowel necrosis (72%) followed by ulcerative colitis (8%), intra-abdominal abscess (6%), small bowel obstruction (3%) and gastric ulcer (3%) [1]. Although HPVG itself is no longer considered an ominous radiologic sign, the increased use of CT evidence in in-patient medicine has allowed for early detection of severe illnesses, and has influenced management [2]. HPVG in conjunction with the clinical context determines the degree of management. Aggressive management by way of emergent laparotomy is recommended in patients in whom CT evidence of HPVG is concurrent with clinical signs of bowel necrosis or ischemia [3]. Overall, prognosis and treatment are dependent on the underlying etiology of HPVG [4, 5]. Predictors of bowel necrosis were explored in recent study [5]. Mortality rate is highest in cases of HPVG associated with bowel necrosis, following scores from Acute Physiology and Chronic Health Evaluation (APACHE) II were helpful in guidance of management with higher scores predicting higher mortality [6].

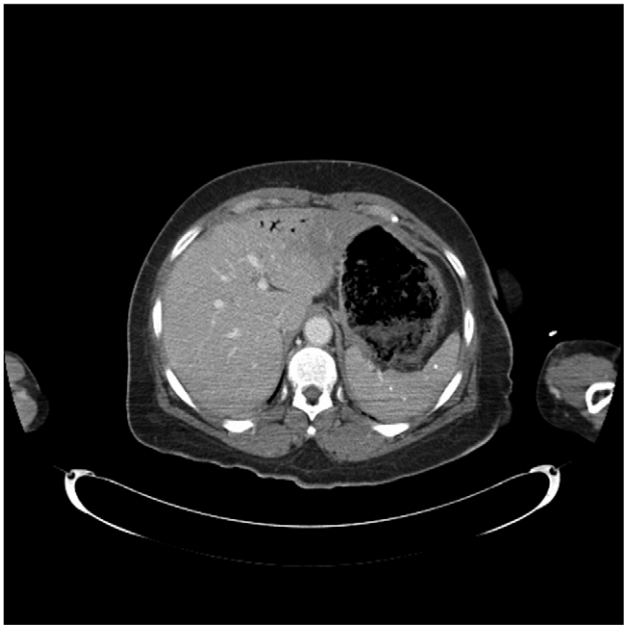

Figure1: CT (transverse section) of the abdomen with intravenous contrast showed multiple air densities seen in the liver

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Figure 2: CT (coronal section) of the abdomen with intravenous contrast showed multiple air densities seen in the liver

CONFLICT OF INTEREST STATEMENT

None declared.

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