



A Hidden Case of Hemoperitoneum Presenting as Diabetic Ketoacidosis

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Introduction

Hemoperitoneum is the presence of blood in the peritoneal cavity of the abdomen. It is a medical and surgical emergency and if not recognized and addressed with immediate effect, it can result in a high mortality rate. The rapid decline associated with it usually results in poor outcomes in patients presenting with this. We discuss a case of hemoperitoneum presenting initially as diabetic ketoacidosis.

Imaging

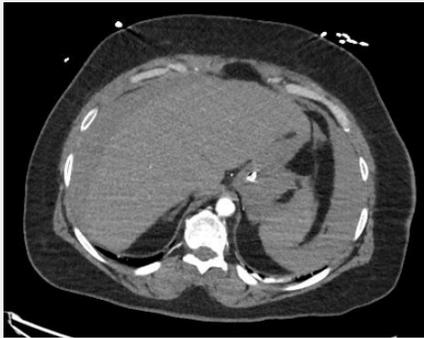


Fig. 1: CT Abdomen and Pelvis with and without contrast showing large volume hemoperitoneum. There was no abdominal or thoracic aortic dissection. Liver, spleen, uterus and adnexa were unremarkable. Right common iliac artery occlusion which is thromboembolic in nature was seen.

Case

A 47-year-old obese female with a past medical history of hypertension, hyperlipidemia, peripheral vascular disease (aortoiliac occlusive disease) status post stent and bypass presented to the emergency department for lightheadedness, nausea, shortness of breath, chest pain, and diffuse diaphoresis. Symptoms started a day prior to presentation and due to symptoms, she had a fall while in the bathroom. On arrival, she was tachycardic, tachypneic, hypotensive and hypothermic. On physical exam, she was pale, had a mottled appearance, and was cold with abdominal distension. EKG showed sinus tachycardia with no ST changes. Labs drawn which were significant for elevated white blood count, troponin and lactic acid with a glucose of 548. Venous blood gas showed pH of 7.08, lactic acid of 11 and hemoglobin of 11.2. Initially, the patient was treated for severe sepsis and possible diabetic ketoacidosis (DKA). She became more lethargic and was intubated for airway protection and hypoxia. Arterial blood gas post intubation showed worsening metabolic acidosis with a pH of 6.61, bicarb of 4, lactate of 18.1 and hemoglobin of 6.9 for which she received bicarb boluses. Stat CT head, cervical spine, chest, abdomen and pelvis were ordered, and she was transported to the medical intensive care unit for further management. Betahydroxybutyrate level was later checked which was 1.0 which discredited the diagnosis of DKA. Shortly after arrival into the ICU, the patient went into PEA cardiac arrest. CT abdomen pelvis was significant for hemoperitoneum of unknown origin and Massive transfusion protocol was activated. A resuscitative thoracotomy was performed as a last resort to achieve spontaneous circulation in an attempt to transport the patient to the operating room however it was unsuccessful.

Discussion

Hemoperitoneum can be rapidly fatal even when managed appropriately. Our patient had lab studies that were similar to diabetic ketoacidosis hence delaying proper management. Hemoperitoneum can present as dizziness, confusion, abdominal tenderness, nausea, vomiting, cold skin, clammy skin, abdominal distension, and hemodynamic instability. Most cases of hemoperitoneum are traumatic. The etiology in this patient is unknown and was not revealed by an autopsy. It may also have been a spontaneous hemoperitoneum. Diagnosis is not always suspected until imaging is performed for abdominal pain and/or distention. Etiologies include hepatic, splenic, gynecologic, vascular causes, and bleeding disorders. It can be rapidly detected via a FAST exam and is mostly seen in the right upper quadrant. Management of hemoperitoneum involves angioembolization. or surgical intervention.

Resuscitative Thoracotomy

This is a procedure of last resort and allows rapid access to the heart and major thoracic vessels.



Fig. 2: Left lateral thoracotomy

Conclusion

This case illustrates an unusual presentation of hemoperitoneum initially presenting as acidosis. It also demonstrates how rapid a patient with hemoperitoneum can deteriorate. Recognition of this condition is critical to delivering proper management and to prevent mortality. This should encourage providers to seek basic ultrasound training for rapid diagnosis of multiple conditions.

Hemoperitoneum on Ultrasound

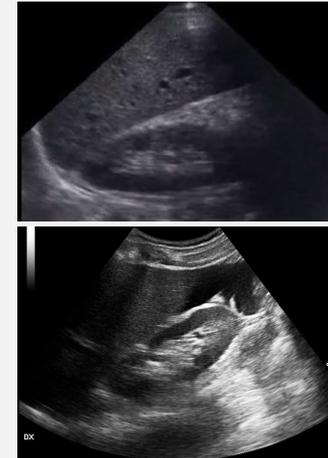


Fig. 3: The image above reflects a normal right upper quadrant ultrasound while the image below demonstrates the presence of hemoperitoneum in the right upper quadrant.

References

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