Pelvic retroperitoneal hematoma
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Section: Abdominal imaging
Case Type: Clinical Cases
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Patient: 28 years, male

Clinical History:

A 28 years old male presented after a surgical intervention for pelvic fracture due to a vehicle accident for evaluation of the abdomen due to rapid decrease of blood hemospherin levels.

Imaging Findings:

A 28 years old male presented after a surgical intervention for pelvic fracture due to a vehicle accident for evaluation of the abdomen due to rapid decrease of blood hemospherin levels. At the CT examination hemoperitoneum was visualized. (Figure 1). An air to fluid level depicted in an intrapelvic cavity. After contrast enhancement the cavity was filled with intravenous contrast medium and represented the dome of urinary bladder (Figure 2a,b). At lower levels an enlarged intraperitoneal mass demonstrated with an air to fluid level. The mass demonstrated increased density (60-70HU) and did not enhance after a contrast medium administration whereas the urinary bladder appeared displaced by the mass (Figure 3 a,b,c). The urinary bladder catheter depicted displaced within the urinary bladder at lower levels. The imaging findings were compatible with an intrapelvic retroperitoneal hematoma.

Multiple pelvic fractures were recognized and an external osteosynthesis were also present. The intrapelvic vessels were normal at the CT examination. The patient underwent surgery due to decline of hemospherin levels and the diagnosis confirmed the fluid to air level within the hematoma constituted entrapped urine and not a hematocrit sign as we initially believed. The source of blood loss was impossible to define and attributed to pelvic fracture. The patient after a transfusion of 18 blood units underwent surgery twice again. Active bleeding could not be identifying. The patient transferred to another hospital for embolization of the pelvic vessels and died in multiorganic failure 10 days later.

Discussion:

Retroperitoneal hematomas can result from vertebral or pelvic fracture, injuries of the pancreas, urogenital tract or vascular injuries. Among these causes, trauma of the kidneys is the most frequent. Spontaneous retroperitoneal or pelvic haemorrhage in adult requires exclusion of an aortic rupture. It may also be due to neoplastic disease, hemorrhagic diathesis, or antiguagulant therapy, which is the most frequent cause of spontaneous psoas hematoma. Retroperitoneal hematoma may be localized (e.g. to the perirenal space) or may involve the entire retroperitoneum depending on the primary lesion and the extent of the collection. Clinical suspicion of retroperitoneal hematoma, or intraperitoneal fluid recognized seen at ultrasound requires further evaluation by CT. CT will influence the treatment planning and is useful for evaluating response to therapy. Contrast enhanced CT in the arterial or portal phase can be used to demonstrate active bleeding, which in many cases may mandate immediate therapy, such as surgery or interventional treatment by embolization therapy. Hematomas appear as masses of varying size whose attenuation depends largely on the age and size of the collection. Sedimentation causes layering of the blood components with gradient toward the dependent portions of the hemorrhagic material. Fluid levels may occur. Clot formation leads to typical hyperattenuating regions within the hemorrhage (up to 70 HU) which are often ill defined and rounded in appearance. Hematomas do not enhance after intravenous contrast administration. With
increasing resorption of the hemorrhage there will be a contrast enhancing rim that should not be mistaken with superinfection. The only secure sign of superinfection is the presence of gas bubble in the patient who have not had any type of percutaneous puncture. A primary retroperitoneal hematoma may become an intraperitoneal hemorrhage if it ruptures the posterior parietal peritoneum. Hematoma of sufficient size can displace and compress adjacent organs. A chronic hematoma may confused with abscess or necrotic mass and percutaneous needle aspiration may be necessary for definitive diagnosis.

**Differential Diagnosis List:** Enlarged intrapelvic retroperitoneal hematoma

**Final Diagnosis:** Enlarged intrapelvic retroperitoneal hematoma

**References:**


Figure 3

Description: Origin: