Inflammation and infection

A giant hemorrhagic adrenal pseudocyst mimicking hydatid cyst

Mokhtar Bibia,*, Ahmed Sellamia, Yassine Ouanesa, Alia Zehanib, Kays Chakerb, Mohamed AliBen Chehidaa, Sami Ben Rhoumaa, Yassine Nouira

a Department of Urology, LA Rabta Hospital, Tunis, Tunisia
b Department of Pathology, La Rabta Hospital, Tunis, Tunisia

ARTICLE INFO

Keywords:
Hemorrhagic adrenal pseudocyst
Diagnosis
Therapeutics

Introduction

Adrenal cysts and pseudocysts are a rare condition usually incidentally diagnosed by imaging methods. An "adrenal pseudocyst" is the term given to no tumoral, no parasitic cyst of the adrenal gland in which an epithelial or endothelial lining is not demonstrated. The incidence of adrenal hemorrhagic pseudocyst is very low. Less than 100 hemorrhagic pseudocysts have been reported. The diagnosis of hemorrhagic adrenal pseudocyst should be made with caution on imaging alone. It is important to distinguish adrenal malignancy from non-tumoral hemorrhage. We present a case of a giant hemorrhagic adrenal pseudocyst mimicking hydatid cyst and we discuss the clinical radiological and histopathological features.

Case

A 51-year-old woman with history of hypertension presented with a 1-year history of abdominal pain. The clinical examination didn't reveal a palpable abdominal mass or tenderness on palpation. The ultrasonographic examination of the abdominal mass showed a giant cystic mass over the left suprarenal region with internal echoes noted within the cyst. Enhanced computed tomography (CT) of the abdomen showed a well-defined lesion of the left adrenal gland in which an epithelial or endothelial lining is not demonstrated. The incidence of adrenal hemorrhagic pseudocyst is very low. Less than 100 hemorrhagic pseudocysts have been reported. The diagnosis of hemorrhagic adrenal pseudocyst should be made with caution on imaging alone. It is important to distinguish adrenal malignancy from non-tumoral hemorrhage. We present a case of a giant hemorrhagic adrenal pseudocyst mimicking hydatid cyst and we discuss the clinical radiological and histopathological features.

Discussion

Adrenal gland cysts are uncommon entities and 4 pathological subtypes have been described: cystic degeneration of adrenal neoplasms, true cysts, pseudocysts and infectious cysts.1 Most of these cystic lesions are clinically silent and are therefore often diagnosed incidentally. Large cysts generally present as non-specific abdominal pain. Since up to 7% of adrenal cysts are malignant, a careful preoperative hormonal and morphofunctional evaluation is mandatory.2 Malignancy may be suspected in the presence of symptoms caused by functioning neoplasms such as Cushing’s syndrome, hyperadrenalism, hirsutism in women, and hypertension.2

On CT scan, adrenal pseudocysts typically appear as well-demarcated uni- or multilocular cystic lesions with the density of fluid, but unlike simple cysts can contain solid components, including septa, blood, and calcifications.3 The differential diagnosis of adrenal

https://doi.org/10.1016/j.eucr.2018.09.015
Received 3 September 2018; Received in revised form 18 September 2018; Accepted 20 September 2018
Available online 21 September 2018
2214-4420/ © 2018 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/BY-NC-ND/4.0/).
pseudocysts includes epithelial cysts, endothelial cysts, and parasitic
cysts. The definitive preoperative diagnosis of adrenal pseudocyst can
be difficult to make when there is acute intracystic hemorrhage, as in
the present case, as this results in contrast enhancement on imaging.
Certain features raise the suspicion of malignancy within a cystic
adrenal lesion, including a heterogeneous appearance on imaging and
the presence of necrosis in the center of the mass accompanied by
calcification, and the size of the adrenal mass. In our case we suspect a
hydatid cyst of adrenal gland.

Surgical excision is indicated in the presence of symptoms, suspicion
of malignancy, an increase in size and detection of a functioning
adrenal cyst. Laparoscopic treatment is indicated for small tumors. Cysts larger
than 6 cm should be approached using an open procedure because of
concerns about potential malignancy.

Histopathology of the excised specimen gives confirmatory diag-
nosis showing unique microscopic features, as they are composed of a
fibrous hyalinized capsule containing clotted blood, residual adreno-
cortical tissue, and thin-walled vessels without identifiable cystic
membranes. This lack of epithelial layer characterizes it as a pseudo-
cyst. The actual etiology of adrenal pseudocysts is unknown and hy-
potheses include the cystic degeneration of an adrenal neoplasm, ec-
tasia of preexisting vessels, cystic degeneration of hematomas, or
malformation of adrenal veins or intra-adrenal hemorrhage caused by
trauma. Another theory holds that the degeneration of a true cyst that
has lost its cellular lining due to inflammation or bleeding inside the
cyst can lead to a pseudocyst.

Conclusion
A hemorrhagic adrenal pseudocyst is an uncommon clinical finding.
In most cases of hemorrhagic adrenal pseudocysts, no identifiable cause
of hemorrhage can be determined. Clinical and radiological features of
the tumor are nonspecific and histopathological examination is essen-
tial to establish definitive diagnosis.

Conflicts of interest
None for all authors.

Funding
This research did not receive any specific grant from funding
agencies in the public, commercial, or not-for-profit sectors.
References

1. Diolombi Mairo L, Khani Francesca, Epstein Jonathan I. Diagnostic dilemmas in enlarged and diffusely hemorrhagic adrenal glands. *Hum Pathol.* 2016. https://doi.org/10.1016/j.humpath.2016.02.017.

2. Simon DR, Palese MA. Clinical update on the management of adrenal hemorrhage. *Curr Urol Rep.* 2009;10(1):78–83. https://doi.org/10.1007/s11934-009-0014-y.

3. Yip L, Tublin ME, Falcone JA. The adrenal mass: correlation of histopathology with imaging. *Am Surg Oncol.* 2010;17:846–852. https://doi.org/10.1245/s10434-009-0829-2.

4. Amarillo HA, Bruzoni M, Loto M, Castagneto GH, Mihura ME. Hemorrhagic adrenal pseudocyst: laparoscopic treatment. *Surg Endosc.* 2004;18:1539. https://doi.org/10.1007/s00464-003-4547-8.

5. Medeiros LJ, Lewandrowski KB, Vickery AL. Adrenal pseudocyst: a clinical and pathological study of eight cases. *Hum Pathol.* 1989;20:660–665. https://doi.org/10.1016/0196-8177(89)90153-6.