Case Report

Adrenal cyst

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ABSTRACT

Adrenal cysts are rarely seen lesions. Most are asymptomatic and less than 10 cm. Adrenal cysts, most of which are diagnosed incidentally, can be diagnosed more by wide usage of diagnostic imaging methods. Symptoms appear when they grow to a large size causing pain or gastrointestinal disturbance or become palpable. In this article, a case of a large left adrenal cyst, 12 cm diameter was causing abdominal pain in a 20-year-old female patient subsequently removed totally by surgical excision with adrenalectomy is presented and treatment modalities was discussed.

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Cysts of adrenal gland are not common. Mostly, they are small in size and asymptomatic, and there have been some diagnostic difficulties. The real incidence of them is not known exactly. An approximate autopsy incidence of 0.07% has been reported.[1,2] There was found 613 reported cases up to now in the English literature.[1,2] The majority of the reported cases were between 5.1 and 10 cm. The mean size was 9.6 cm.[1] The preoperative diagnosis was made in only 7% of the patients in the past. Whereas a preoperative diagnosis of an adrenal cyst was made in 56% of patients recently probably due to improvements in imaging techniques.[1] The frequency of incidentally found adrenal cyst in 12000 tomograms was 0.02%.[2] In this report a case of large adrenal cyst has been presented, and diagnosis and treatment have been discussed.

Case Report. Twenty year-old female patient admitted to the hospital with left upper quadrant pain which has been present for one year. In the physical examination there were pain at the left subcostal region with deep palpation and tenderness at the left costovertebral region. There were no abnormalities in the routine biochemical tests. In the abdominal ultrasound (US), a thin walled cystic lesion in 12 cm diameter was found at the upper part of left kidney. In abdominal computerized tomography (CT) scan, located in left adrenal gland a homogenous lesion which pushed the spleen laterally and the tail of pancreas anteriorly, was approximately 12 x 12 x 11 cm in size, had a smooth contour, and thin wall was hypodense and did not keep contrast material, was seen (**Figure 1**). In nuclear magnetic resonance imaging (NMRI) there were similar findings like in CT (**Figure 2**). In intravenous pyelogram (IVP) the compression to upper pole of the left kidney from outside was observed. The endocrinologic functions of adrenal glands were biochemically normal. She was taken to the operation with a preoperative diagnosis of cystic lesion at the left adrenal gland. In the operation, a round, 12 cm diameter, cystic mass full of fluid originated from the left adrenal gland was seen. This lesion had a smooth contour and thin wall. It pushed the left kidney down, spleen laterally and tail of pancreas anteriorly. The wall of the cyst severely adhered to the left adrenal gland in dirty whitish and made the gland flattened and small. The cyst also showed adherence to surroundings. Not to lead to rupture of cyst when trying to separate, more than one liter of fluid which was light yellow in color was aspirated from the cyst (**Figure 3**). The cyst was excised totally with the left adrenal gland. There were no complications during postoperative period. The patient was discharged on

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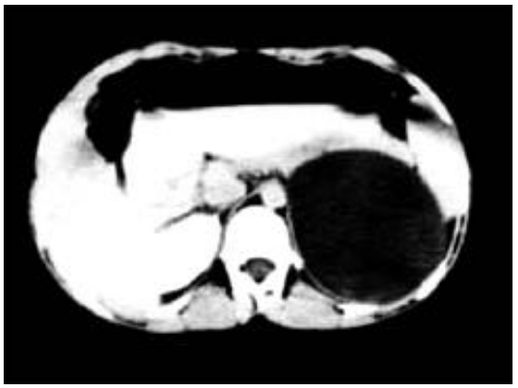

Figure 1 - The computerized tomography scan of the adrenal cyst.

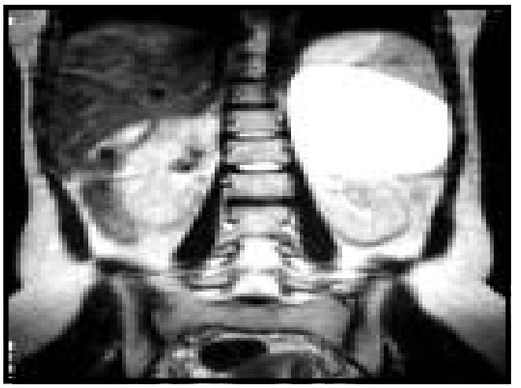

Figure 2 - The nuclear magnetic resonance imaging of the adrenal cyst.

Figure 3 - The intraoperative view of the aspirated adrenal cyst.

the 7th day. In macroscopic examination the cyst was seen as it adhered to the adrenal gland and wall thickness was 3 mm. In the microscopic examination, it was seen that the wall of the cyst was covered by endothelial cells. The histopathologic diagnosis was endothelial adrenal cyst.

Discussion. The true incidence of adrenal cysts is unknown. The incidence is 0.1-0.2% reported in the literature.[3-10] In 1670, the first information on adrenal cyst was reported by Greiselius in Vienna.[3] There were 7 cases of adrenal cyst reported in 1906.[3] Wahl found an autopsy incidence of one in 1555 cases in 1951.[3] Foster reported 220 cases of adrenal cyst in the world literature in 1966.[3] Cystic lesions of the adrenal gland are usually clinically silent, so there are few reported cases of cystic adrenal lesion. Adrenal cysts may occur at any age, but they are generally encountered in the 3rd through 5th decades. Females are more affected than males.[3-5] There are no characteristic symptoms associated with adrenal cysts. Generally, small adrenal cysts are clinically silent. Symptoms are related to size and position of the lesion. Pain, gastrointestinal discomforts and palpable mass can be found.[3-10] The patient may present with acute abdominal findings if intracystic hemorrhage or rupture occurs.[3] It could be quite difficult preoperatively to make a definitive diagnosis of adrenal cyst. Mesenteric, retroperitoneal, splenic, hepatic or renal cyst should be thought in different diagnosis. Abdominal US, CT and NMRI are the preferred imaging methods for diagnosis. In the presented case, during investigations of the abdominal pain, a cystic lesion in the left upper abdomen was encountered in USG. A diagnosis of the left adrenal cyst was made in abdominal CT and NMRI. Adrenal cysts can be divided into 4 groups as histopathologically.[3] 1) endothelial cysts (45%), 2) pseudocysts (39%), 3) epithelial cysts (19%), 4) parasitic cysts (7%). Endothelial cysts are the most common type of adrenal cyst and divided into 2 as lymphangiomatous and angiomatous cysts. Their walls are very thin. It is thought that they are formed by ectasia of lymphatic vessels or cystic degeneration of hamartoma in the adrenal gland. These cysts have a smooth flattened endothelial lining and are distinguished from tumors

by the absence of proliferating endothelium.[3] In our case, these indicated features were present and we diagnosed it as an endothelial cyst. Pseudocysts are the 2nd most common type of adrenal cysts. These cysts are usually large and unilocular. The walls are composed of dense fibrous connective tissue. The wall thickness is usually one to 5 mm but may be as thick as 3 cm in some cases. Pseudocysts may occur as a result of hemorrhage within a normal adrenal tissue or within a tumor. Other etiologies may be cystic degeneration of a primary neoplasm or a vascular neoplasm or malformation. Epithelial cysts are rare, and some authors doubt the true existence of these cysts. Parasitic cysts of the adrenal gland are rare lesions. Most are echinococcal in origin. Adrenal involvement in generalized hydatid disease occurs less than 0.5% of the cases. These cysts have thick walls that contain the parasite.[3,4,10] In the treatment of adrenal cysts, size of mass, presence of symptoms or not, and suspicion of malignancy must be taken in to consideration. Surgical excision was required in, symptomatic adrenal cysts appearing endocrine abnormality (even in subclinical cases), causing complications, carrying risk of malignancy or being bigger than 5 cm. Surgical treatment generally is not suggested for small asymptomatic cysts, since most of them are benign and it is suitable to follow up them.[3,5,10] Surgical treatment can be carried out either by laparoscopy or open surgery. In benign cysts, to protect kidney and adrenal gland, simple enucleation of cysts is the choice of surgical operation. Other methods in the treatment of adrenal cysts are marsupialization, percutaneous aspiration and drainage, excision of adrenal gland with the adrenal cyst. Marsupialization has been recommended for large cysts that are widely adherent to multiple organs. Percutaneous aspiration and drainage may be an acceptable initial management strategy. But in this method, histopathology of the cysts cannot be determined and the probability of malignancy cannot be excluded. Surgical excision of adrenal gland with adrenal cyst are recommended for parasitic, functional cysts and cysts carrying suspicion of malignancy or for the large, complicated cysts and the cysts adherent to adrenal gland, that cannot be separated from the gland for technical reasons.[3,5,10] In the presented case, the diameter of the cyst was bigger than 5 cm and it was severely adherent to the adrenal gland and made it flattened and smaller. Also, it caused degeneration in gross appearance of the gland and nature of cyst could not be determined. So, the cyst was totally excised with the adrenal gland. Bellantone et al[4] suggest en bloc excision of the cyst with adrenal gland because of not being able to determine nature of cysts totally and the risk of neglecting the other pathologies in adrenal gland although all imaging methods were carried out. In our case, the cyst was large and due to possibility of being adherent to other organs, laparoscopic surgery was not thought for this case. As a result, the treatment of adrenal cysts, for being large, not for being separated from adrenal gland technically, causing degenerative changes in adrenal gland and carrying risk of malignancy; en block resection of cyst with adrenal gland at open surgery can be preferred.

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