CLINICAL IMAGE

Adrenal angiomyolipoma: a rare localization

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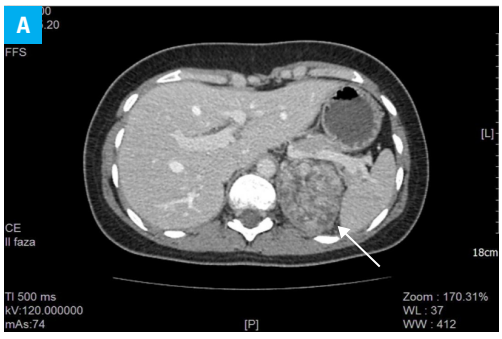
A 35-year-old woman presented with generalized weakness and nonspecific abdominal pain, similar to irritable bowel syndrome. Physical examination was unremarkable, with no palpable mass or tenderness. Blood pressure was normal. No other comorbidities were diagnosed.

An abdominal ultrasound was performed, showing a left adrenal mass. A contrast-enhanced computed tomography scan of the abdomen showed a high-fat solid mass (82 × 72 mm) adhering to the upper pole of the left kidney (FIGURE 1A and 1B). The precontrast density was -37 to +24 Hounsfield units (HU), and postcontrast, +9 to +62 HU. Magnetic resonance imaging demonstrated a heterogeneous lobular mass (70 × 60 × 90 mm), adipose tissue nodes, and contrast-enhancing foci of parenchymal tissue. The border between the tumor and upper pole of the left renal parenchyma was obliterated. Biochemical investigations (plasma cortisol, aldosterone, 24-hour urinary catecholamines) were negative for a functioning adrenal tumor.

The patient was referred for surgery. Left-sided classic (open) adrenalectomy was performed. The 8-cm adrenal tumor adhered to the upper pole of the left kidney. However, it did not infiltrate the kidney. It was encapsulated and soft, with a well-developed vessel structure on the surface.

Histopathological examination was performed (FIGURE 1C–1G). Macroscopically, a hard, yellow-brown, polycyclic tumor with focal hemorrhages (8 × 7 × 5 cm) was observed. It was well demarcated, partly encapsulated, and visible in the surgical margin. Microscopically, mature adipose tissue and thick-walled blood vessels were observed, as well as epithelioid cells positive for immunohistochemical staining with smooth muscle actin as a muscular component. Immunohistochemistry showed a positive reaction for MART-1 antigen and focally positive reaction for the HMB-45 antibody. The tumor adhered to a compressed fragment of the adrenal gland, preserving the macroscopic and microscopic structure. Histopathological examination revealed an angiomyolipoma.

An adrenal gland tumor was diagnosed. The patient recovered uneventfully and was discharged on day 7 after surgery. Twenty-five months after surgery, she felt well and hormone



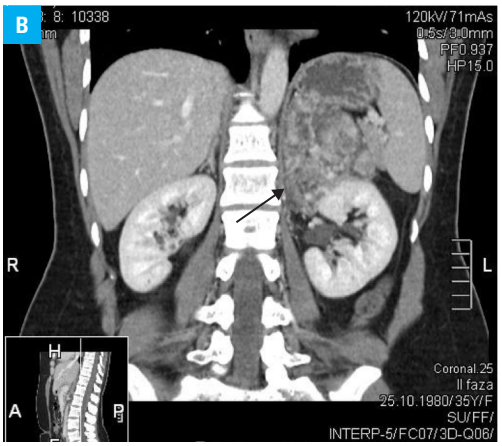


FIGURE 1 A – contrast-enhanced computed tomography scan: high-fat solid mass (82 × 72 mm) (arrow); B – contrast-enhanced computed tomography scan: adrenal tumor (arrow)

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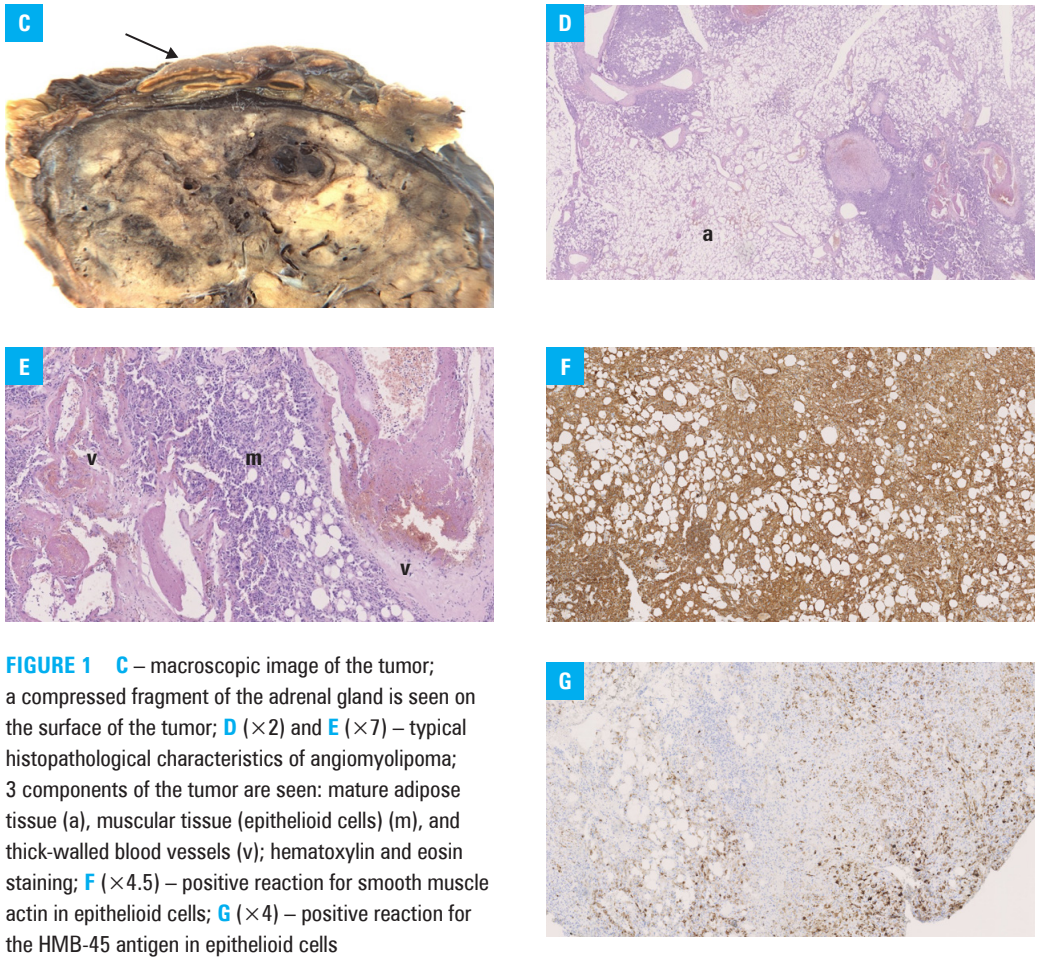

FIGURE 1 **C** – macroscopic image of the tumor; a compressed fragment of the adrenal gland is seen on the surface of the tumor; **D** (×2) and **E** (×7) – typical histopathological characteristics of angiomyolipoma; 3 components of the tumor are seen: mature adipose tissue (a), muscular tissue (epithelioid cells) (m), and thick-walled blood vessels (v); hematoxylin and eosin staining; **F** (×4.5) – positive reaction for smooth muscle actin in epithelioid cells; **G** (×4) – positive reaction for the HMB-45 antigen in epithelioid cells

supplementation was not required. There was no evidence of tumor recurrence or metastasis.

Only 16 cases of adrenal angiomyolipoma have been reported.[1] Angiomyolipoma usually grows in the kidney, but extrarenal locations are also reported (liver, retroperitoneum, uterus, hard palate, head, abdominal wall, penis, fallopian tube, nasal cavity, vagina, spermatic cord, and colon).[2] It is a benign neoplasm composed of thick-walled blood vessels, smooth muscle cells, and mature adipose tissue.[3] The abundant and abnormal elastin-poor vascularity in the angiomyolipoma tumor may lead to spontaneous rupture.[4] The risk of life-threatening hemorrhage is the main clinical reason for surgical removal.

Adrenal angiomyolipoma is difficult to diagnose clinically because of lack of or nonspecific symptoms. It can be challenging to distinguish the origin of a perirenal lesion between primary renal and primary adrenal angiomyolipoma on radiological examination due to anatomical relations between structures. It is also hard to confirm the diagnosis because of the diverse morphology of angiomyolipoma on imaging. A false impression of malignancy occurs if the tumor is large and heterogeneous; it can also be misdiagnosed as adrenocortical tumor.[4,5]

REFERENCES

1 Lam AK. Lipomatous tumours in adrenal gland: WHO updates and clinical implications. Endocr Relat Cancer. 2017; 24: R65-R79.

2 Minja EJ, Pellerin M, Saviano N, Chamberlain RS. Retroperitoneal extrarenal angiomyolipomas: an evidence-based approach to a rare clinical entity. Case Rep Nephrol. 2012; 2012: 374107.

3 Lam KY, Lo CY. Adrenal lipomatous tumours: a 30-year clinicopathological experience at a single institution. J Clin Pathol. 2001; 54: 707-712.

4 Yener O, Ozçelik A. Angiomyolipoma of the right adrenal gland. ISRN Surg. 2011; 2011: 102743.

5 Honglin H, Xiaoqing X. Giant adrenal angiomyolipoma. J Clin Endocr Metab. 2012; 97: 3835-3836.