Urology Journal
UNRC/IUA

Vol. 1, No. 3, 211-212 Summer 2004
Printed in IRAN

Case reports

Adrenal Myelolipoma

DADFAR MR[1]*, MOSTOFI NE[2]

[1]*Department of Urology, Imam Khomeini Hospital, Ahwaz University of Medical Sciences, Ahwaz, Iran*

[2]*Department of Pathology, Imam Khomeini Hospital, Ahwaz University of Medical Sciences, Ahwaz, Iran*

KEY WORDS: adrenal, myelolipoma, surgical removal

Introduction

Adrenal myelolipoma is a rare benign tumor of adrenal glands characterized by fatty tissue and bone marrow resembling elements in microscopy.(1) We report a case of such tumors and discuss clinical manifestations, paraclinical evaluations, intraoperative findings, and microscopic features.

Case Report

An 18-year-old man was referred to our hospital for an abdominal mass. The patient suffered from pain, dullness of right side and an increase in abdomen size, which had begun two weeks before and increased gradually. The patient had no history of gastrointestinal symptoms, except for a decrease in appetite.

No history of fever, weight loss, urinary symptoms, change in urine color, or hematuria was reported. He also suffered from thalassemia major. The patient had had abdominal surgery almost one year before for lymph nodes and liver biopsies, but the results were obscure. No history of drug intake was reported.

In physical examination, normal vital signs, dark face, pale mucosae and icteric sclera in both eyes were observed. A non-tender mass with smooth edges, extending down to pelvis was palpable. This mass had crossed the midline and its auscultation was unremarkable.

In blood chemistry, anemia, hyperbilirubinemia, hypocalcemia, hyperphosphatemia, and increased transaminases were detected. Sonography revealed a solid mass at right adrenal site, sized 20 × 15 cm, which caused the downward displacement of right kidney, while a distinguishable capsule separated it from liver. Abdominal CT scan confirmed the ultrasonographic findings (fig. 1). Furthermore, necessary laboratory studies for pheochromocytoma and neuroblostoma were also done.

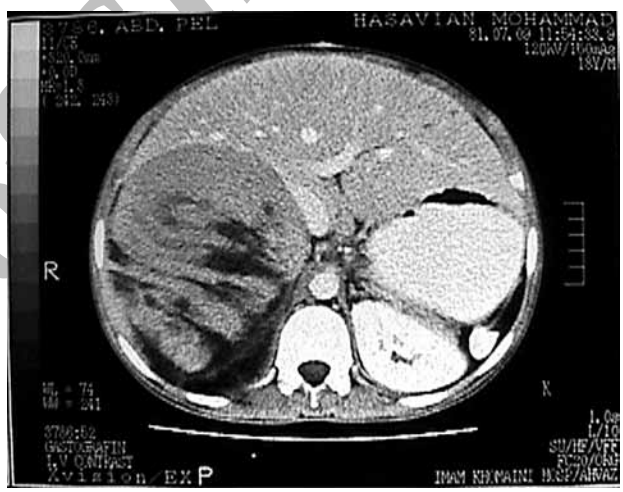

FIG. 1. Abdominal CT scan. A 15×12×20 cm mass with fat contents, located between the liver and kidney

Via a thoracoabdominal incision the right adrenal mass was excised. Pathologic diagnosis report was myelolipoma (fig. 2,3).

Discussion

Adrenal Myelolipoma is a benign tumor without hormonal function, which is diagnosed by the presence of bone marrow and fatty tissue in adrenal gland.(1)

This tumor was first described in 1905 by

Accepted for publication in August 2003
**Corresponding author: email: mdadfar@yahoo.com*

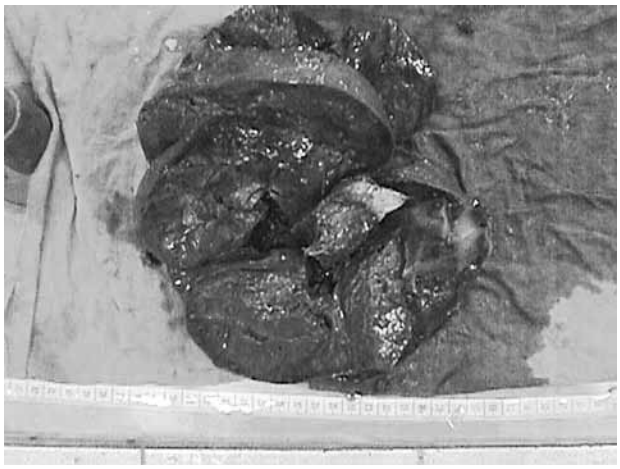

Fig. 2. A large mass, weighed 1200 gr, was excised.

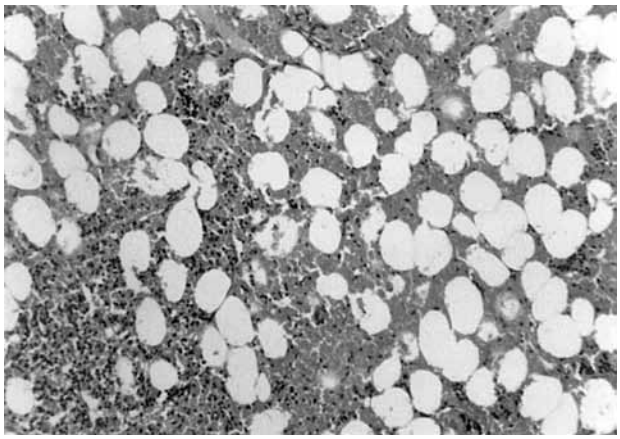

Fig. 3. Pathology showed mature fat lobes, containing active ingredients of bone marrow, along with large areas with hemorrhage.

Qiraul. Since then, only about 100 cases have been reported. Mostly, these tumors are smaller than 5 cm in diameter and patients are male and obese, with the main symptom of flank pain.[2] This tumor is rarely calcified and has no hormonal activity; however, hormonal studies are recommended because of probable association with cortical adenoma.[3] The cause of this tumor is unknown, but in 1950, Seyle and Stone succeeded in producing myelolipoma tissue in reticular layer of adrenal cortex in mouse by injecting undeveloped extract of hypophysis and testosterone.[4] This is a slow growing tumor and surgical removal is not recommended, provided that the patient has no symptoms due to the size of tumor.[5] If this tumor is detected with CT scan features and the patient has no symptom, further intervention is not required.[6] However, huge tumors, which need differential diagnosis from adrenal adenocarcinomas, can lead to clinical symptoms and surgical exploration and removal is indicated.[7] The indication for surgery in our patient was the huge abdominal mass.

In summary, surgical removal in small size adrenal myelolipoma is not recommended, but it must be differentiated from adrenal adenocarcinoma. Preoperative diagnosis is of great importance and imaging modalities are helpful.

References

1. Papavasiliou C, Gouliamos A, Deligiorgi E. Masses of myeloadipose tissue: radiological and clinical considerations. Int J Radiot Oncol Boil Phys 1990; 19 : 985-993
2. Sanders R, Bissada N, Curry N. Clinical spectrum of adrenal myelolipoma: analysis of 8 tumors in 7 patients. J Urol 1995; 6: 1791-1793.
3. Vyberg M, Sestoft L. Combined adrenal myelolipoma and adenoma associated with cushing's syndrome. Am J Clin Pathol 1986; 86: 541-5.
4. Selye H, Stone H. Hormonally induced transformation of adrenal into myeloid tissue. Am J Pathol 1950; 26: 211-233.
5. Han M, Burnett AL, Fishman EK. The natural history and treatment of adrenal myelolipoma. J Urol 1997; 157: 1213-1216.
6. Casey LR, Cohen AJ, Wile AG, Dietrich RB. Giant adrenal myelolipomas: CT and MRI findings. Abdom Imaging 1994; 19: 165-167.
7. Wilhelmus JL, Schrodt GR, Alberhasky MT, Alcorn MO. Giant adrenal myelolipoma: case report and review of the literature. Arch Pathol Lab Med 1981; 105: 532-5.