than a few centimeters in diameter. Giant adrenal myelolipomas as in our case are extremely rare. However, tumors up to 34 cm in diameter and weighing up to 5500 g have been reported.[5] It is important to recognize the existence of giant adrenal myelolipomas so as to include them in a differential diagnosis with more malignant entities, such as retroperitoneal liposarcomas or tumors arising from the kidney.

Characteristic radiological findings[6,8,9] of myelolipoma include a hyperechogenic mass on sonogram, a well-demarcated inhomogeneous low-attenuation (-30 to -115 HU) mass on CT, and a relatively hypovascular tumor at the adrenal region on angiography. Detection and diagnosis of these lesions are based on identification of fat density within them. CT is regarded as the most sensitive imaging procedure for this purpose, and the demonstration of fat density within an adrenal mass by CT is essentially diagnostic for adrenal myelolipoma.[6] These tumors generally are incidental findings and require no further workup or treatment. However, if symptomatic or if the diagnosis is in doubt, surgery is recommended. Most common symptoms are pain, with hemorrhage occasionally reported. There are sporadic reports of associated adrenal dysfunction, most commonly Cushing's syndrome[7] or adrenal insufficiency.[8]

The management of an incidental myelolipoma is still controversial. Dieckmann et al.[9] recommended the following management strategy.

1. Initial observation with CT follow-up after a 3-month interval was advised for small adrenal tumors.
2. Surgical excision was recommended for large tumors since there was a definite risk of spontaneous hemorrhage.

Although there are only a few reports of spontaneous hemorrhage,[10-12] this is nevertheless a life-threatening condition, and a diagnosis from CT may be difficult in the presence of perinephric hemorrhage. Elective surgical excision is recommended for all symptomatic tumors and for asymptomatic myelolipomas larger than 6 cm since the smallest reported size of a ruptured tumor is 7 cm.[11]

Consequently, with the advent of sonography and CT, tumors are more frequently being recognized, which is a great help in the evaluation before surgery.

REFERENCES

1. Han M., Burnett, A.L., Fishman E.K., Marshall F.F. The natural history and treatment of adrenal myelolipoma. *J Urol.*.1997; **157**: 1213-1216.
2. Kenney, P.J., Wagner, B.J., Rao, P., Heffess, C.S. Myelolipoma: CT and pathological features. *Radiology.* 1998; **208**: 87-95.
3. McDonnell, W.V. Myelolipoma of adrenal. *Arch. Pathol.* 1956; **61**: 416-419.
4. Olsson, C.A., Krane, P.J., Klugo, R.C. et al. *Adrenal myelolipoma. Surgery.* 1973; **73**: 665-670.
5. Wilhelmus, J., Schrody, G.R., Alberhasky, M.T., Alcorn, M.O. Giant adrenal myelolipoma: case report and review of the literature. *Arch. Pathol. Lab Med.* 1981; **105**: 532-535.
6. Vick, C.W., Zeman, P.K., Mannes, E., Coronan, J.J., Walsh, J.W. Adrenal myelolipoma: CT and ultrasound findings. *Urol. Radiol.* 1984; **6**: 7-13.
7. Plaut, A. Myelolipoma in the adrenal cortex. *Am. J. Pathol.* 1958; **34**: 487-491.
8. Casey, L.R., Cohen, A.J. Giant adrenal myelolipomas: CT and MR findings. *Abdom. Imaging.* 1994; **19**: 165-167.
9. Dieckmann, K.P., Hamm, P., Pickartz, H. et al. Adrenal myelolipoma: clinical, radiologic, and histologic features. *Urology.* 1987; **29**: 1-8.
10. Newman, P.H., Silen, W. Myelolipoma of the adrenal gland. Report of the third case of symptomatic tumor and review of the literature. *Arch. Surg.* 1968; **97**: 637-639.
11. Ishikawa, H., Tachibana, M., Hata, M. et al. Myelolipoma of the adrenal gland. *J. Urol.* 1981; **126**: 777-779.
12. Sussman, S.K. Rosshirt, W. Perinephric hemorrhage secondary to adrenal myelolipoma, case report. *Clin. Imaging.* 1991; **15**: 299-301.