CASE REPORT

Journal of Pre-Clinical and Clinical Research, 2011, Vol 5, No 1, 41-42
www.jpccr.eu

Large adrenal myelolipoma – case report

Grażyna Orlicz-Szczęsna[1], Andrzej Prystupa[1], Andrzej Miturski[2], Marcin Trojnar[1]

[1] *Chair and Department of Internal Medicine, Medical University, Lublin, Poland*
[2] *Student, Medical University, Lublin, Poland*

Abstract

Myelolipoma of the adrenal gland is a rare, benign tumour, composed of adipose tissue and haemopoietic elements. In most cases, adrenal myelolipomas are asymptomatic and hormonally inactive. Due to their small sizes, they are found incidentally (incidentaloma) during routine ultrasonographic examination of the abdomen. In this paper a case of a large myelolipoma in a 53-year-old male patient is discussed. Differential diagnosis of the adrenal tumour includes hormonal assessment and more sophisticated imaging techniques such as CT or MRI in order to investigate the morphology of the tumour. Due to its higher sensitivity, MRI seems to be the procedure of choice.

Key words

adrenal gland, myelolipoma, MRI, CT

INTRODUCTION

Myelolipoma is a benign, rare tumour, most commonly found in the adrenal glands, although cases of extra-adrenal location are also known. The tumours are usually small in size, hormonally inactive and asymptomatic. In most cases, the lesion is found incidentally (incidentaloma) [1]. Histologically, the tumour is composed of adipocytes and normal haematopoietic tissue containing precursors of erythrocytes, leukocytes and megakaryocytes [2]. Although myelolipomas do not undergo malignant transformation, such lesions should be surgically treated as they may result in haemorrhagic complications – extra-peritoneal or intra-tumoural haemorrhage [3, 4]. Laparoscopy is recommended.

CASE REPORT

A 53-year-old male patient (driving instructor) presented with non-specific, moderate pain in the right lumbar region of several-week duration, which intensified on movement. During the last 6 months the patient had lost 22 kg (from 104 to 84 kg; height: 185cm) due to an intentional low-calorie diet and increased physical activity. In 2009, the patient underwent strumectomy because of benign retrosternal nodular goitre without hyperthyroidism. After surgery, the patient received a substitutive dose of thyroxin, 125 μg a day, to achieve euthyreosis. The patient had a 2-year history of uratic gout. His arterial pressure was normal. The family history revealed that his father died of stomach cancer and his mother of brain cancer.

The abdominal ultrasound scan demonstrated an oval hyperechogenic solid mass in the right adrenal region, 57 mm × 54 mm (Fig. 1). The abdominal CT showed an abnormal right adrenal mass of mixed density, from 40 HU - 22 HU, with peripheral uneven contrast enhancement and tiny calcifications, 55 mm × 58 mm, most probably corresponding to the pheochromocytoma-like lesion. The kidneys were of normal size and structure, without calculosis and stasis (September 2010). Multisequential MRI of the adrenals before and after gadolinium administration did not confirm the suspected pheochromocytoma. The MRI description included an abnormal tumorous tissue mass with smooth contours, 6 × 5.5 cm in size, with unevenly increased intensity of signal in the T2-dependent pictures, and mixed intensity in the T1-dependent pictures, with uneven peripheral post-contrast enhancement. In the chemical shift imaging, the lesion suppressed the signal in the counterphase, which counterindicated pheochromocytoma (Fig 2) (October 2010).

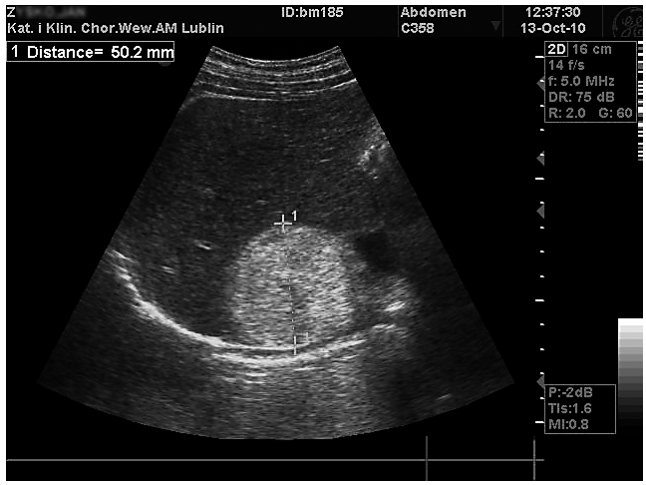

Figure 1. Ultrasonographic scan of the abdomen showing a myelolipoma in the right adrenal region

Laboratory findings regarding hormonal status are presented in Table 1. The results did not confirm pheochromocytoma. The patient underwent laparoscopic surgery (adrenalectomia dextra) with subsequent histopathological finding of myelolipoma (Fig. 3). The surgical procedure was uneventful.

DISCUSSION

Myelolipomas represent relatively rare and benign tumours composed of adipose as well as haemopoietic tissue. The precise incidence of these tumours is not known, and

Corresponding author: Marcin Trojnar, Chair and Department of Internal Medicine, Medical University, Staszica 11, 20-081 Lublin, Poland
E-mail: m.trojnar@umlub.pl

Received: 20 May 2011; accepted: 15 June 2011

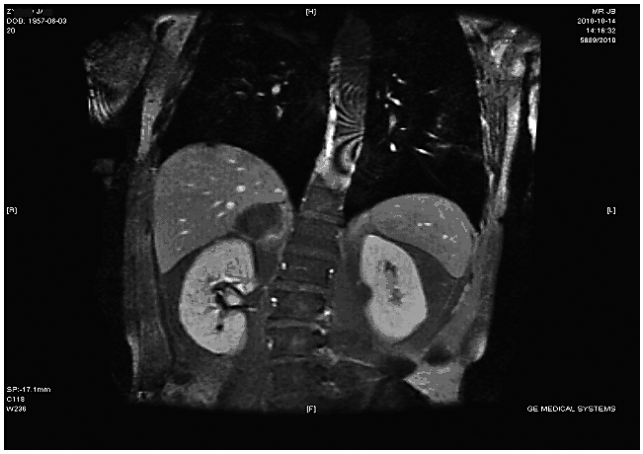

Figure 2. Myelolipoma documented in CT (the abnormal right adrenal mass of mixed density)

Table 1. Laboratory findings

Laboratory parameter	Result	Reference limit
chromogranin A (met. ELISA)	17 U/L	2-18 U/L
Normetanefrin	177.3 µg/ 24 h	50-650 µg/24 h
Metanefrin	108.3 µg/24 h	30-350 µg/24 h
3-metoxythyramine	165.9 µg/24 h	30-350 µg/24 h
Cortisol	15.73 ng/ml	6.7-22.6 ng/ml at 8.00 a.m.
TSH*	0.86 µU/ml	0.25-4 µU/ml
FT4*	17 pmol/l	9-20 pmol/l

* at the substitutive daily dose of 125 µg of thyroxin

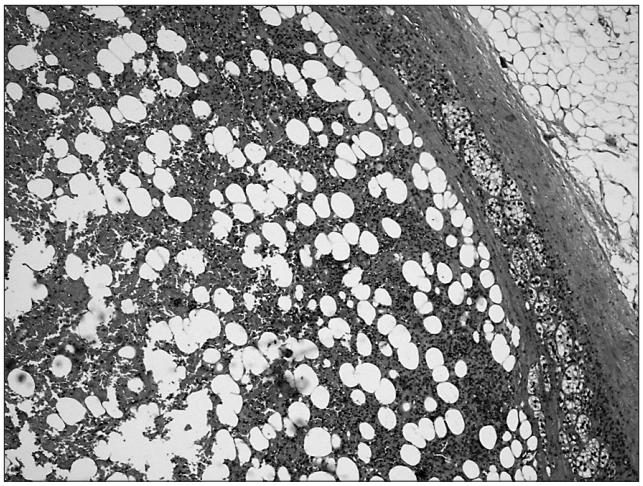

Figure 3. A scan from microscope presenting histopathological assessment of the excised tumor

estimated at 0.08-0.4% of all diagnosed adrenal masses. The distribution between the genders seems similar [5]. Myelolipomas are typically found incidentally in routine ultrasonographic examinations of the abdominal cavity [6]. CT imaging also produces the unexpected discovery of these adrenal masses. Myelolipomas are most often small and usually do not present any hormonal secretion; however, an apparent excess of cortisol has been previously demonstrated in such tumours [7]. The discussed tumours may also be very large and cause chronic abdominal or lumbar pain due to compression of the surrounding tissues and organs. Interestingly, there are reports that myelolipoma could be as large as 31 cm × 24.5 cm × 11.5 cm [8, 9]. Acute clinical complications such as extra-peritoneal or intra-tumoural haemorrhage are also possible.

The differential diagnosis should include adrenal adenoma (hormonally active or inactive), adrenal cancer, liposarcoma and pheochromocytoma [10]. In the case presented, the CT scan of the abdominal cavity demonstrated the adrenal tumour of radiologic features likely to correspond to pheochromocytoma – the mass of a large size, with calcifications and of uneven mixed density. The clinical picture, however, did not indicate the presence of pheochromocytoma – lack of arterial hypertension or typical attacks with the release of catecholamines. The history revealed abdominal and lumbar pain on the side of the adrenal tumour once the patient had lost 20 kg. The earlier excess adipose tissue was likely to stabilize the tumour region. Similar symptoms occur in slim patients with movable kidney syndrome. Moreover, the laboratory tests carried out did not confirm the catecholamine excess (Tab. 1). The imaging diagnostics were widened with MRI demonstrating no features of pheochromocytoma, which was then confirmed by postoperative histopathological diagnosis of myelolipoma.

CONCLUSION

Our conclusion is as follows: in cases of adrenal tumours, accurate imaging and laboratory diagnostic procedures should be conducted. The examination of choice should be adrenal MRI, due to its higher precision of diagnosis, particularly differential diagnosis with pheochromocytoma.

Large tumours may cause clinical symptoms (compressive, haemorrhagic) and should be treated laparoscopically. This procedure, however, is not indicated for tumour size larger than 10 cm, or in the case of infiltration of surrounding structures [11, 12].

REFERENCES

1. Patel V, Babalola O, Fortson J, Weaver W. Adrenal myelolipoma: report of a case and review of the literature. Am Surg 2006;72(7):649-654.
2. Kenney P, Wagner B, Rao P, Heffess C. Myelolipoma CT and pathologic features. Radiology 1998;208:87-95.
3. Meagalia J, Schmidt J. Natural history of a adrenal myelolipoma. J Urol 1992;147:1089-1090.
4. Lawler L, Pickhardt P. Giant adrenal myelolipoma presenting with spontaneous hemorrhage. CT, MR and pathology correlation. Ir Med J 2001;94(8):231-233.
5. Doddi S, Singhal T, Leake T, Sinha P. Management of an incidentally found large adrenal myelolipoma: a case report. Cases J 2009;2:8414.
6. Daneshmand S, Quek M. Adrenal myelolipoma: Diagnosis and management. J Urol 2006;3:71-74.
7. Brogna A, Scalisi G, Ferrara R, Bucceri A. Giant secreting adrenal myelolipoma in a man: a case report. J Med Case Reports 2011;9(5):298.
8. Akamatsu H, Koseki M, Nakaba H, Sunada S, Ito A, Teramoto S, et al. Giant adrenal myelolipoma: report of a case. Surg Today 2004;34:283–285.
9. Heylen S, Hubens G, Vaneerdeweg W. Giant adrenal myelolipoma: a case report. Acta Chir Belg 2011;111(2):91-93.
10. Wagnerová H, Lazúrová I, Bober J, Sokol L, Zachar M. Adrenal myelolipoma. 6 cases and a review of the literature. Neoplasma 2004;51(4):300-305.
11. Maestroni U, Ziglioli F, Dinale F, Ferretti S, Frattini A, Cortellini P. Is laparoscopy contraindicated in giant adrenal masses? Surg Laparosc Endosc Percutan Tech 2010;20(4):288-90.
12. Sánchez M, Sánchez M, Chaba S, Kalach C, Garcia M. Symptomatic adrenal myelolipoma. Indications and results of surgical excision. Rev Oncol 2002;4:33-36.