

Asymptomatic “giant” pheochromocytoma discovered as adrenal incidentaloma

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Introduction

Adrenal incidentalomas are defined as adrenal lesions incidentally discovered during radiological imaging of the abdomen without prior suspicion of adrenal disease. Approximately 70% of adrenal incidentalomas are non-functional adenomas. Pheochromocytoma presents only 5-7% of the remaining functional incidentalomas. Asymptomatic pheochromocytoma-incidentoma is usually smaller than 1cm. Large pheochromocytoma, incidentally found, without any clinical signs such as severe hypertension, headache, sweating and tachycardia are very rare.

Patient case report

Young woman (32 years old) admitted to Endocrinology Clinic, after incidentally discovered right adrenal mass, size 60x70mm, on abdominal sonogram, performed during regular systematic examination. Computed tomography confirmed “giant” tumour, size 70x74mm, with cystic and necrotic areas and inhomogeneous contrast captivity.

Patient’s medical history of any relevant illnesses, including hypertension, was negative. She was obese (BMI 32), but without weight gain in the past years. There were no symptoms and signs such as hirsutism, purple striae, hair loss, or oedema. The blood pressure (120/80mmHg) heart rate (80/min) and respiratory rate (18/min) were normal. Family history was positive for diabetes mellitus type 2, hypertension and obesity (patient’s parents).

Preoperative laboratory findings.

Parameter	Result	Reference range
Plasma Cortisol at 08, 16 and 23h (nmol/L)	470.2/ 225.6/ and 96.0	150 - 638, 80 - 388
VMA (µmol/D24h)	68.7	0 - 68.6
plasmaAdrenalin (pg/mL)	78.0	<100
plasmaNoradrenalin (pg/mL)	523.3	<600
plasmaDopamine (pg/mL)	102.7	<100
ACTH (pg/mL)	31.52	7.2 - 63.3
PTH (pg/mL)	42	8 - 76
TSH (mIU/L)	4.296	0.4 - 4.60
Calcium (mmol/L)	2.43	2.2 - 2.65
Phosphorus (mmol/L)	0.98	0.80 - 1.55
Potassium (mmol/L)	4.3	3.5 - 5.5
Calcitonin (pg/mL)	0.1	<10
Chromogranin (ng/mL)	12.0	19 - 98

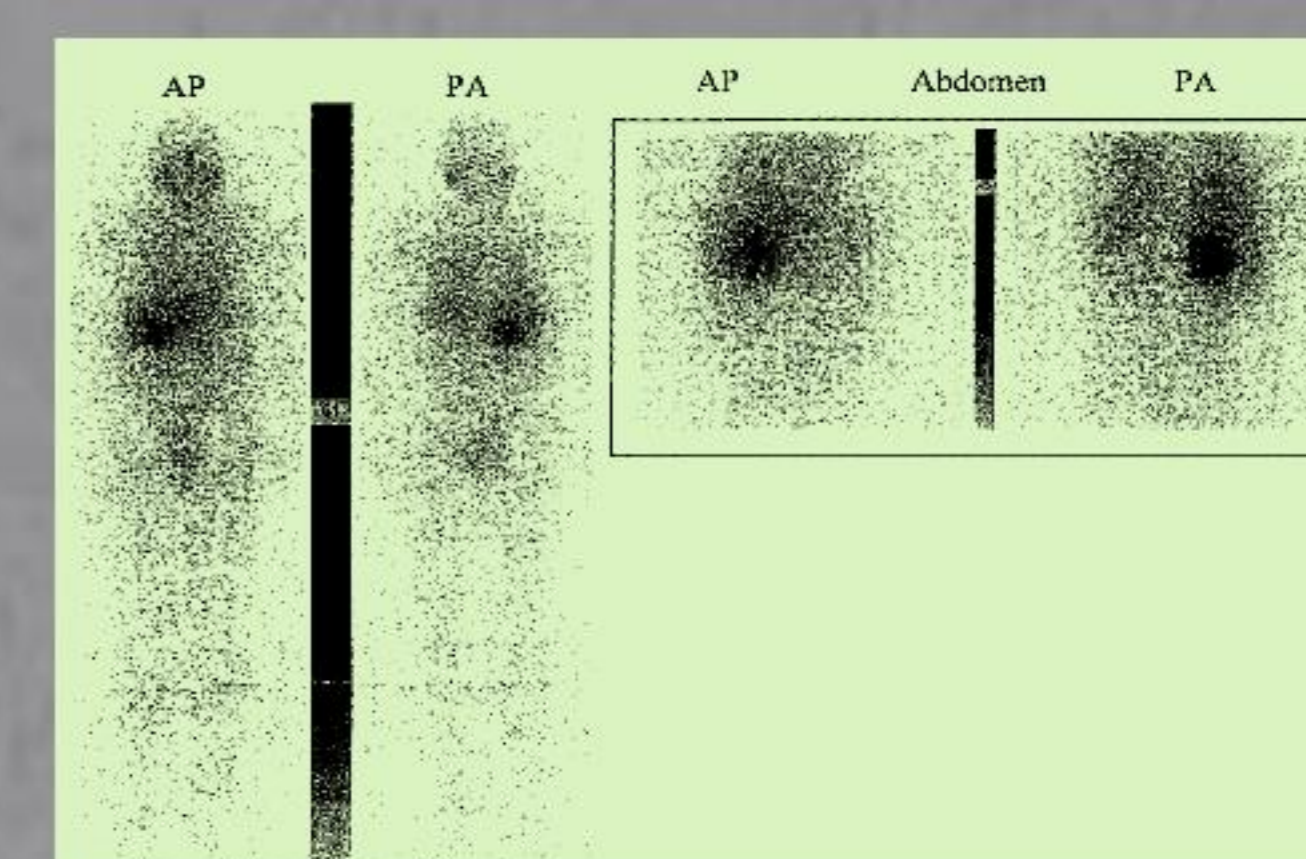
Glycaemia and insulinemia during OGTT.

Parameter	0h OGTT	60minOGTT	120minOGTT	Reference Range
Glycaemia (mmol/l)	6.4	11.1	8.4	3.9 - 6.1
Insulinemia (uU/ml)	37.85	59.3	172.7	2.6 - 24.90

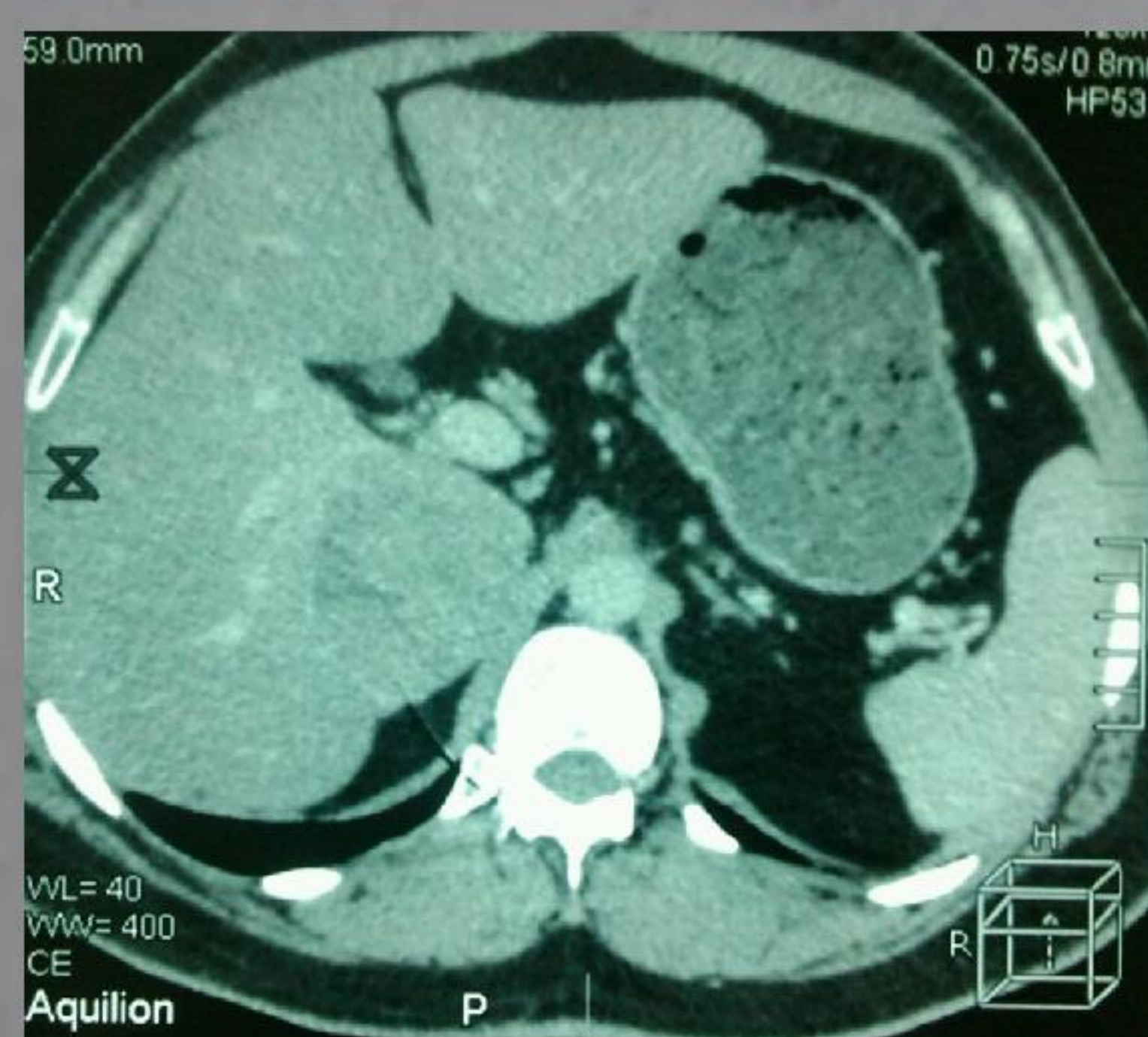
Cortisol levels before and after DST.

Parameter	Basal level before DST	Basal level after DST
Cortisol	470.2nmol/l	52nmol/l

[¹³¹I]-MIBG scans demonstrating large area of increased uptake above the right kidney.



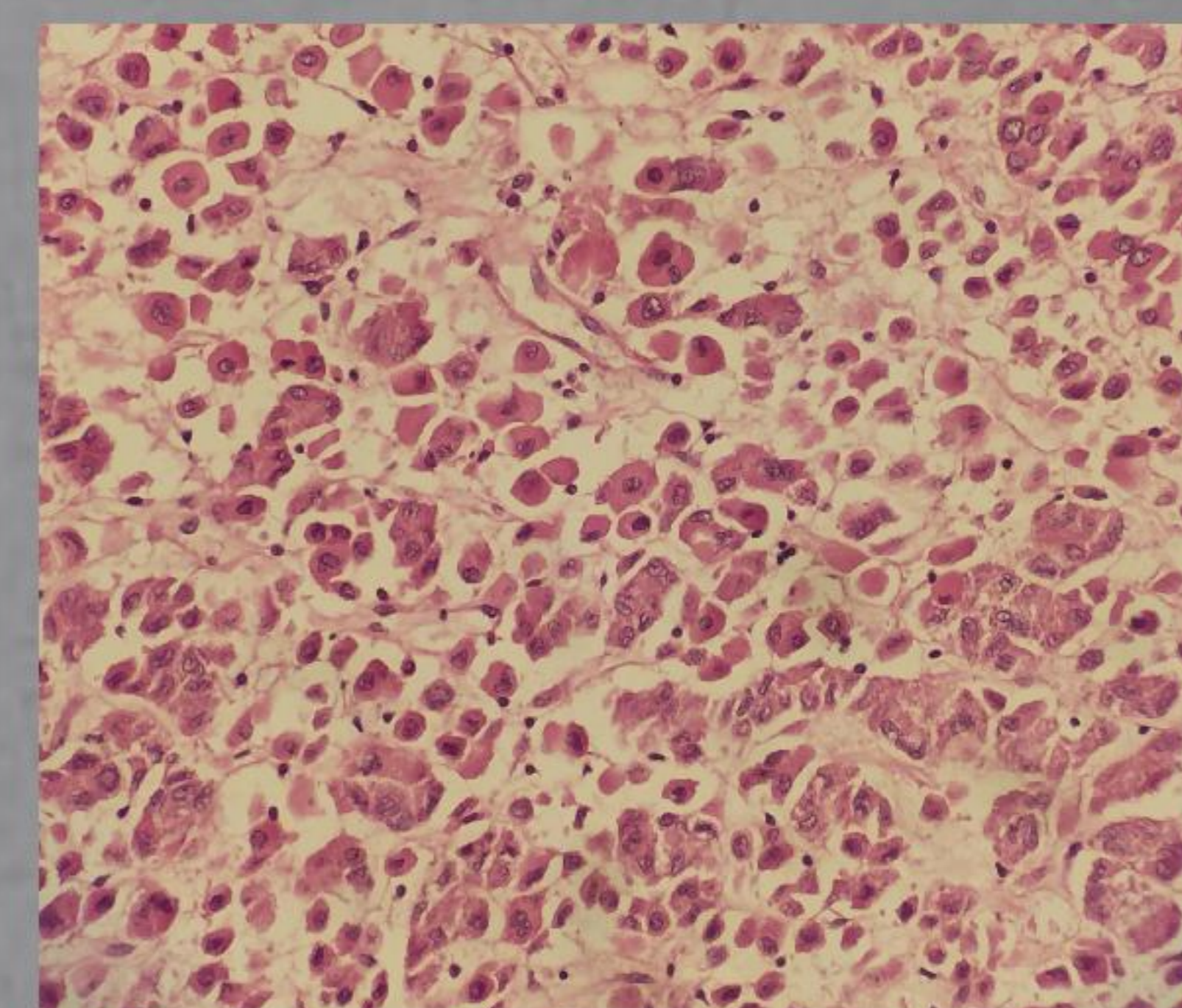
CT scan at the right adrenal level showing large solid mass with well-defined margins and heterogenous cystic and necrotic areas.



Adrenal gland with tumour



Histopathological examination: benign pheochromocytoma



Conclusion

Due to technological advances the frequency of adrenal incidentaloma diagnosis is constantly increasing. Every incidentally found adrenal mass has to be carefully examined regardless of its clinical presentation in order to prevent fatal oversight of possible secreting nature and/or malignant potential of the lesion and to ensure an adequate curable treatment.