



Occasional detection of an adrenal incidentaloma in a female adolescent evaluated for cardiac arrhythmias.

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Introduction

Adrenal incidentalomas consist of adrenal masses discovered occasionally by radiological evaluation in the absence of clinical features of adrenal disease.¹⁻² Clinical evaluation of patients with adrenal incidentalomas is important since these lesions can exhibit a wide spectrum of different features.

In 10%-15% of cases adrenal incidentalomas can be bilateral.¹ They can manifest as non-functioning cortical adenomas in 70%–80% of cases. They can also present as pheochromocytomas in 1.1%–11% of cases, as subclinical Cushing syndrome in 5%–20%, as primary aldosteronism (1%–2%), as primary adrenocortical carcinomas (<5%) or as metastases (2.5%).¹⁻² However, during childhood unsuspected adrenal masses are relatively rare.

Case Presentation

A 14-year-old girl was referred to the endocrinology unit of the pediatric department for investigation of an incidental finding of a mass in the right adrenal gland during magnetic resonance imaging of the heart, due to symptoms of cardiac arrhythmias (lasting for some weeks). Personal and familial medical records were negative for acute or chronic disease apart from a known mitral valve prolapse in patient's mother. Systemic physical examination of the patient revealed normal physical growth with completed pubertal development and regular menstruations, normal vital signs and normal blood pressure levels, without any pathological finding.

In order to explore the symptom of isolated arrhythmias a 24-hours Holter monitoring was performed, revealing ventricular bigeminy and trigeminy. Biochemical and haematological laboratory evaluation was normal. Endocrinological laboratory investigation showed normal pituitary gland hormonal secretion. Thyroid gland evaluation showed euthyroidism status with negative autoantibodies. Adrenal glands function evaluation was performed including normal serum cortisol concentrations following a circadian rhythm and normal androgens levels. A 24-hours urine collection revealed normal free urinary cortisol concentrations along with normal vanillylmandelic acid levels.

Retroperitoneal space magnetic resonance imaging depicted a mass of 10.5 cm diameter, with solid and cystic parts, in the right adrenal gland. The lesion presented an inhomogeneous enhancement after the intravenous administration of the paramagnetic contrast agent. From an anatomical aspect the lesion was in contact to the inferior vena cava, without an invasion. In the upper abdomen area, there was no signs of isolated or generalized lymphadenopathy.

Figure 1-3. Retroperitoneal space magnetic resonance imaging from different sections. Figure 4. Whole-body I- 123 metaiodobenzylguanidine (I-123-MIBG) scintigraphy scan

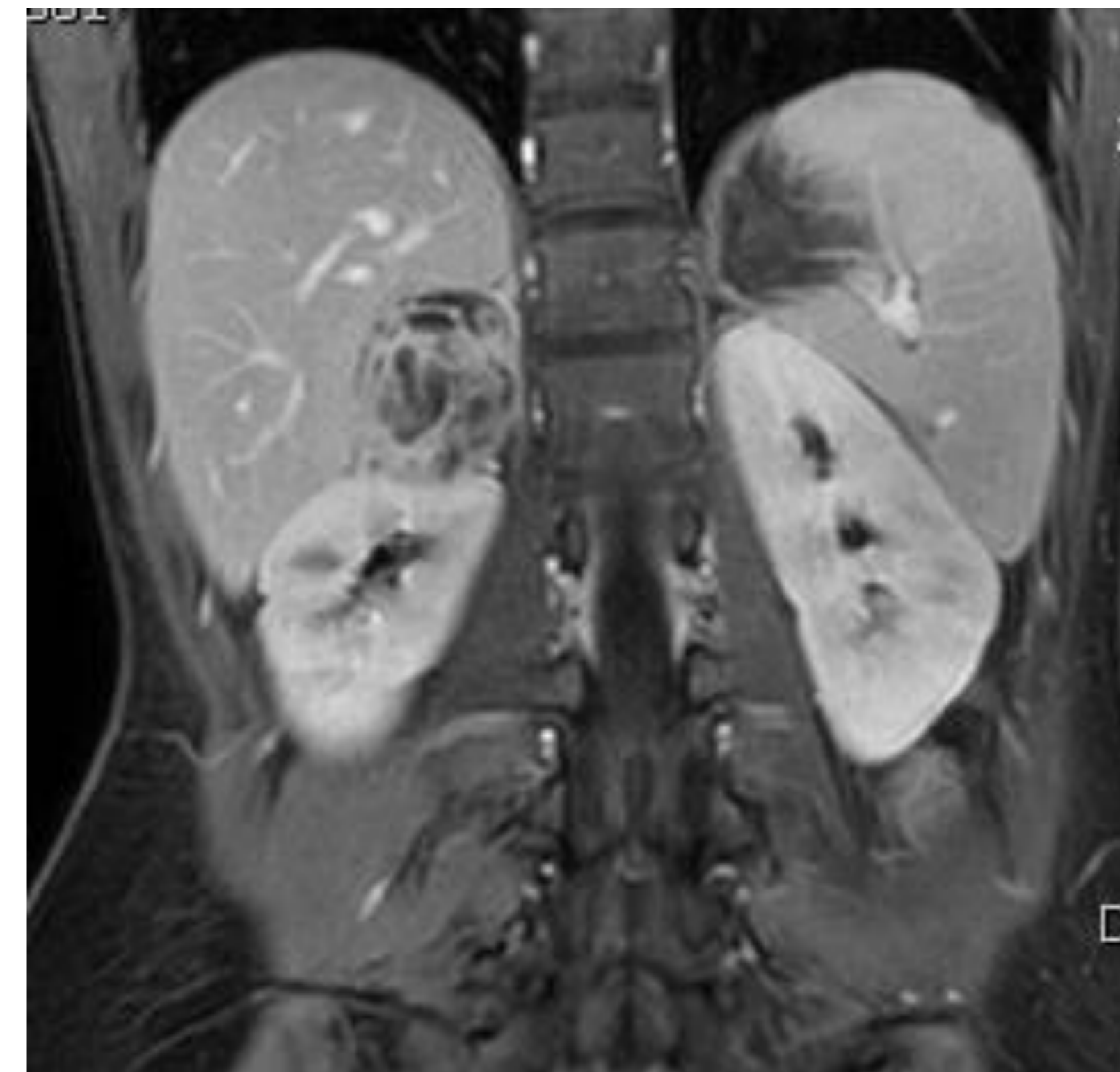


Figure 1



Figure 2

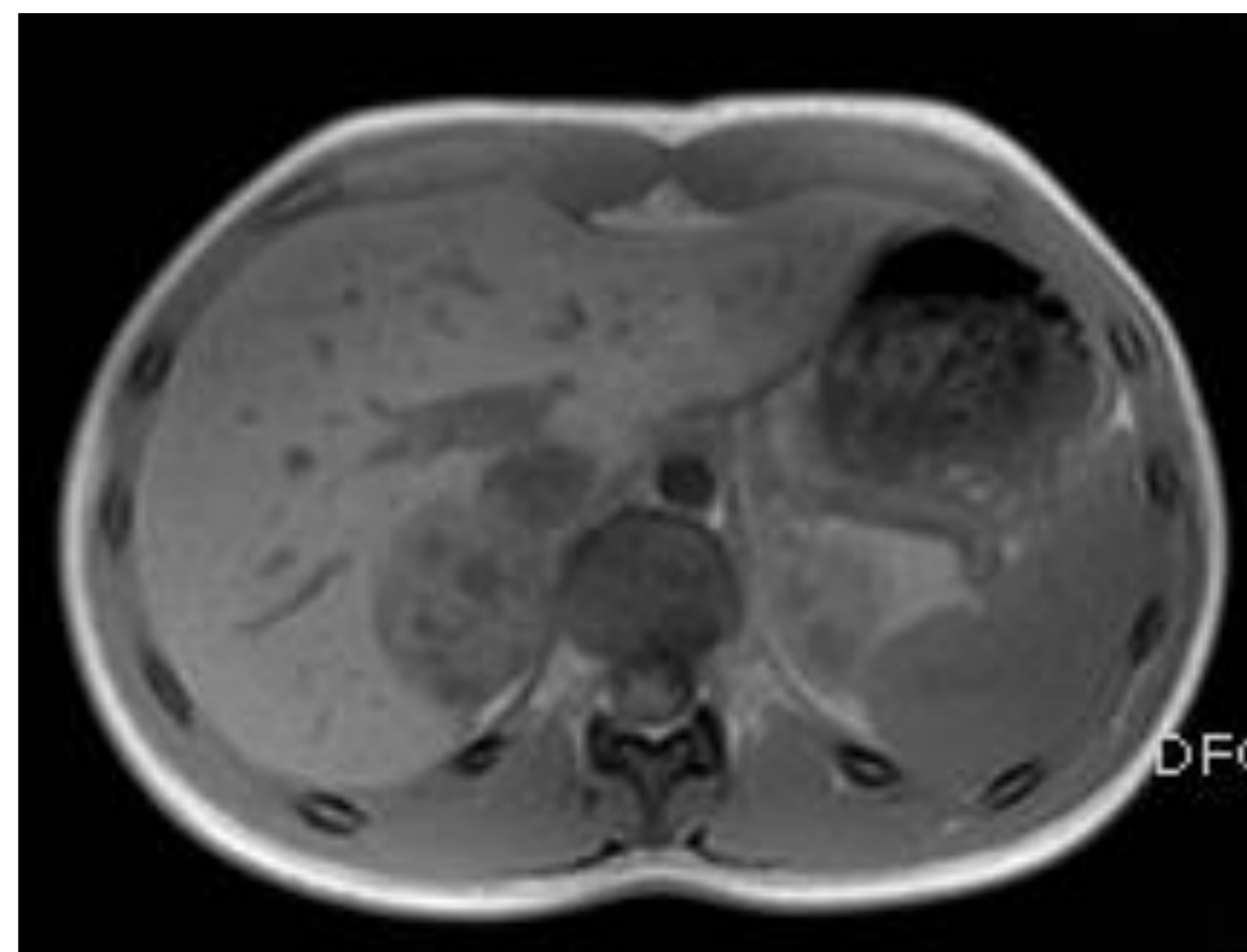


Figure 3

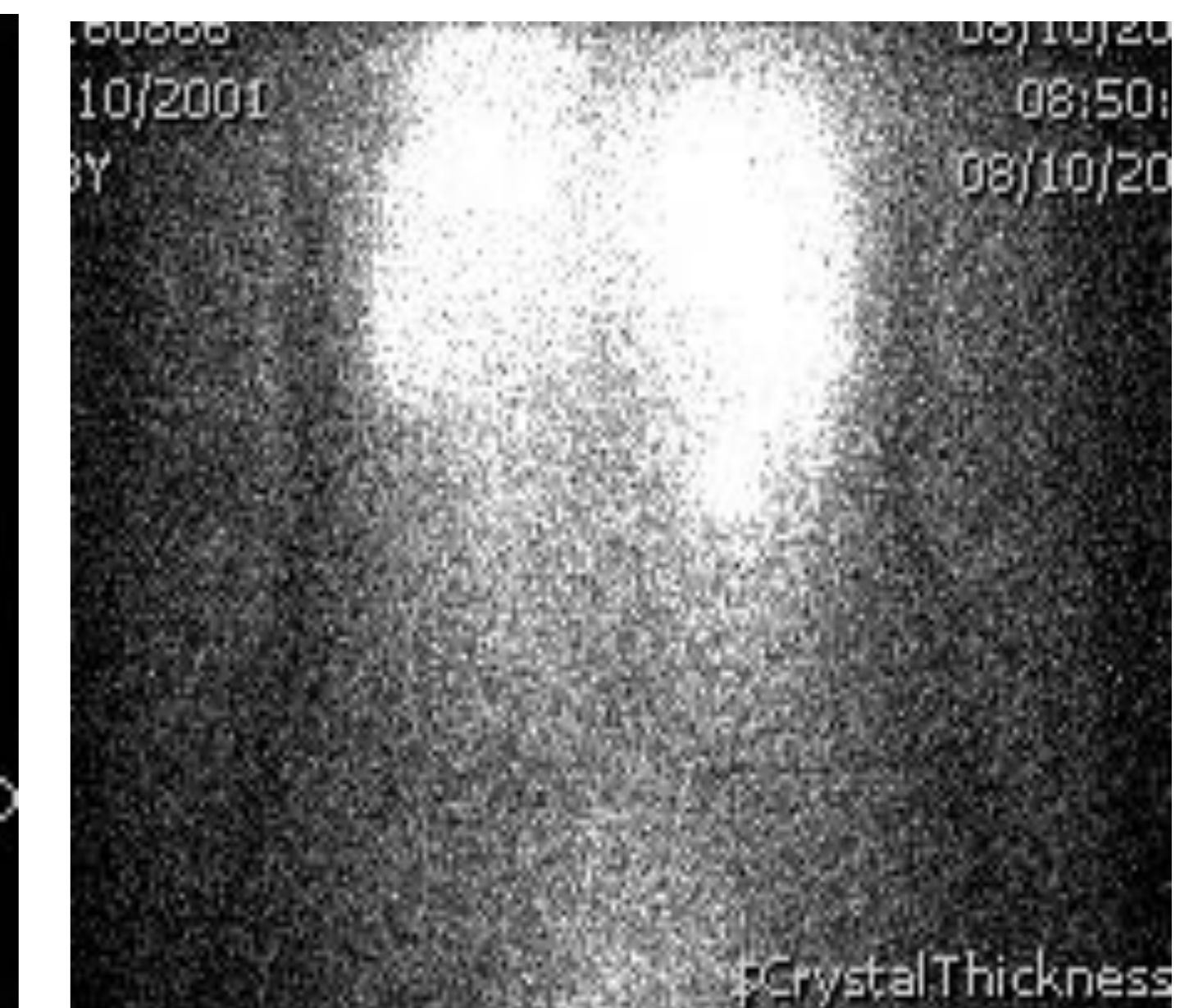


Figure 4

Magnetic resonance imaging of brain, hypothalamus and pituitary gland was normal apart from a slight anterior displacement of the pituitary stalk. Whole-body I-123-metaiodobenzylguanidine (I-123-MIBG) scintigraphy scan revealed a normal distribution of the radioiodinated drug in heart, liver and salivary glands, without uptake from the lesion under investigation and normal elimination of the radio-drug through renal pelvis system.

Surgical removal of the lesion as well as the right adrenal gland was performed. Pathology investigation of the removed tissues revealed an encapsulated non-functioning adrenal cortical adenoma without signs of malignancy.

Conclusions

Incidence of adrenal incidentalomas in children follows an increasing trend, due to improved imaging techniques. It is crucial that adrenal incidentalomas are differentially diagnosed from malignancies.³⁻⁴ Surgical removal is suggested for secretive lesions, for masses of increased dimensions or for lesions with radiological features indicative of malignancy.³⁻⁴

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