

Case Report

Intracerebral hemorrhage revealing a Cushing's disease

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Abstract: Secondary hypertension related to endocrine disease is uncommon. Here, we report a case of hypertensive intracerebral hemorrhage associated with Cushing's disease.

Keywords: Hypertension, stroke, Cushing's disease

Case report

A 48 year old woman with past history of hypertension and diabetes mellitus, presented upon awakening an acute headache and a left sided weakness. She was referred to our intensive care unit in a comatose state. MRI showed a right ventricular hemorrhage and a pituitary adenoma without apoplexy (**Figures 1, 2**). Conventional angiography ruled out any vascular malformation. Control of intracranial pressure required a ventricular shunt. Hypertension was treated with a quadruple therapy. Medical history and physical examination revealed a weight gain and progressive Cushingoid body features such as truncal obesity, hirsutism, alopecia, muscle weakness, osteoporosis and skin atrophy. The blood samples showed high levels of cortisol (867 nmol/l at 8 AM, 996 at 12 AM, 912 at 4 PM, 722 at 8 PM, 591 at midnight), elevated 24-hour urinary free cortisol (207 nmol/24 h), ACTH hypersecretion (49 ng/l at midnight), hypokalemia and a gonadotropin deficiency. Diagnosis was confirmed with a high dose dexamethasone suppression test and an explosive ACTH response to desmopressin test. A neurosurgical excision was planned. She recovered from her hemiplegia but persisted with a global cognitive deterioration.

Discussion

Endocrine arterial hypertension, a condition in which hormone excess results in clinically sig-

nificant hypertension, is a rare cause of hypertension [1]. Primary hyperaldosteronism, Cushing's syndrome and pheochromocytoma are the main conditions. Typically, hypertension is resistant to first-line therapy, the diagnosis of the endocrine disorder is usually delayed and rarely revealed by a hemorrhagic stroke [2]. The pathophysiology of hypertension in Cushing's disease is multifactorial. It combines intrinsic glucocorticoid activity, activation of the renin-angiotensin system, and suppression of the vasodilatory systems [2-4]. In addition patients with Cushing's disease have elevated plasma endothelin levels promoting microangiopathy and subsequent bleeding risk [3, 4].

Although screening of hypertension is expensive and time-consuming, a hormonal assessment of the renin-aldosterone, catecholamines and glucocorticoids excess is recommended for patients with suspected endocrine disease in acute stroke context [1].

Disclosure of conflict of interest

None.

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Cushing and brain hematoma

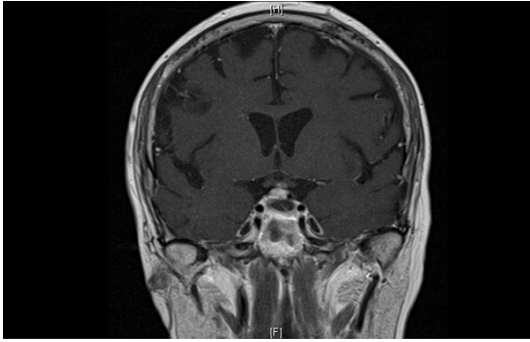


Figure 1. T1 weighted contrast MRI: intrasellar mass with kystic part consistent with a pituitary adenoma.

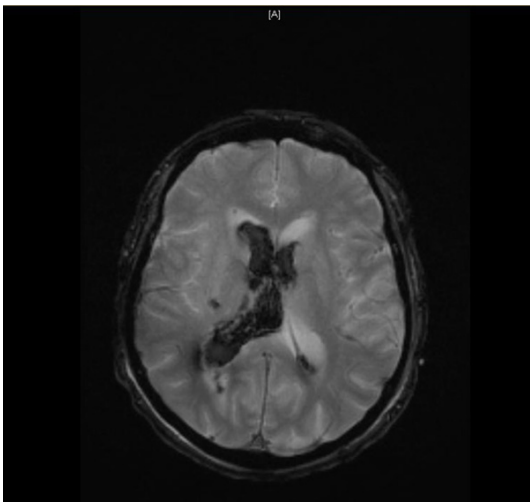


Figure 2. T2*-gradient echo MRI: right ventricular hemorrhage.

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