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Case Report

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Pituitary Apoplexy after Myocardial Revascularization Surgery in Patient with Unknown Macroadenoma: A Case Report

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Introduction

Pituitary apoplexy (HA) corresponds to a hemorrhagic or ischemic infarction of the pituitary gland, generally associated with a pituitary adenoma. The clinic is characterized by severe headache, oculomotor and/or visual disturbances, compromised consciousness, or may even be asymptomatic.

It is a rare clinical entity. The prevalence reported in some studies is 6.2 / 100,000, and of patients with pituitary adenoma, between 2% and 12% present with pituitary apoplexy from the time of diagnosis or may present with pituitary apoplexy as first manifestation.

It is described that between 10-40% of cases there is a precipitating factor, such as hypertension, major surgery (in particular myocardial revascularization surgery), dynamic functional tests of the pituitary that include GnRH, TRH and CRH, anticoagulant treatment, among others.

I present a case of pituitary apoplexy secondary to myocardial revascularization surgery, in a patient with an unknown pituitary macroadenoma.

Clinical Case

A 65-year-old man with a history of arterial hypertension and a history compatible with chronic coronary syndrome, with a positive stress test for ischemia. Was hospitalized for a study with coronary angiography, which revealed severe coronary disease of the anterior descending artery, circumflex artery, and right coronary artery. By compromise of three arteries, it was defined to resolve surgically. Among the entrance, some laboratory findings to considerate, Hemoglobin 13.6 mg/dL, TSH 1.43 mlU/L (normal value 0.45 - 5.6 mlU/L) and FT4 0.58 ng/dL (normal value 0.5 - 2.19 ng/dL).

Myocardial revascularization surgery was performed with anastomosis of the left lateral mammary artery to the anterior descending artery, a venous bridge (saphenous vein) between the aorta and the circumflex artery, and a second venous bridge to the right coronary artery. During the surgery, he presented bleeding from the left mammary artery-anterior descending artery anastomosis, requiring a pericardial patch, without other incidents, and he was connected to extracorporeal circulation for 148 minutes.

The immediate postoperative period was in the Coronary Unit where evolved with pain related to sternotomy, drains and pacemaker leads, associated with a drop in Hemoglobin to 8.2 mg/dL and mild hyponatremia (129 mEq/L) without associated symptoms, which it was interpreted as secondary to inappropriate ADH secretion due to post-surgical pain. Later without major conflicts, was transferred to the basic ward to complete rehabilitation.

The patient evolved with progressive hyponatremia despite water restriction and pain management, reaching a Natremia of 122 mEq/L associated with lethargy, mild right palpebral ptosis and headache, for which it was interpreted as severe symptomatic hyponatremia and was transferred back to the Coronary Unit.

The study of hyponatremia was complemented with TSH 0.08 mlU/L and Random Cortisol 1.5 ug/dL, for which in view of the suspicion of Panhypopituitarism, treatment started with hydrocortisone 100 mg every 8 hours intravenously plus Levothyroxine 100 mcg per day via oral. Also, hormones were requested to evaluate other neuroendocrine axes and an MRI of the sella turcica.

The MRI of the sella turcica showed an expansive sellar lesion with suprasellar extension, with a "snowman" morphology, of dimensions 28 x 24 x 20 mm in diameter, transverse, anteroposterior and greater cephalocaudal, compatible with a pituitary macroadenoma, without elements of hemorrhage (Figure nº1).

The study of the other hormonal axes was as follows, IGF1 8.8 (normal value 60 - 350 ng / mL), PRL 1.0 (normal value 5.2 - 23.6 ng / mL), Testosterone <2.5 (normal value 72 - 623 ng / dL), FSH 1.6 (normal value 1.0 - 6.0 IU / L), LH 1.3 (normal value 2.3 - 9.0 IU / L), confirming the diagnosis of panhypopituitarism secondary to a pituitary apoplexy in a macroadenoma.

The patient evolved favorably, alert, reactive, without headache, evaluation of visual field without alterations and progressive rise in Natremia to 136 mEq / L, achieving hospital discharge.

One month after hospitalization was controlled in Endocrinologist's polyclinic with a new magnetic resonance imaging of the sella turcica. Clinically, the patient was in good general condition without visual field compromise, taking oral hydrocortisone and levothyroxine. The magnetic resonance showed smaller size macroadenoma with a cystic-hemorrhagic, with dimensions 22 x 17 x 16 mm in its transverse diameters, anteroposterior and greater cephalocaudal (Figure 1).

Then it was controlled again in 6 months with a new magnetic resonance of the sella turcica, where a decrease in the size of the expansive process without suprasellar extension was evidenced, leaving the mass limited to the sellar region, with dimensions 17 x 14 x 12 in its diameters transverse, anteroposterior and greater cephalocaudal (Figure 1). The patient continues without symptoms associated [1-4].

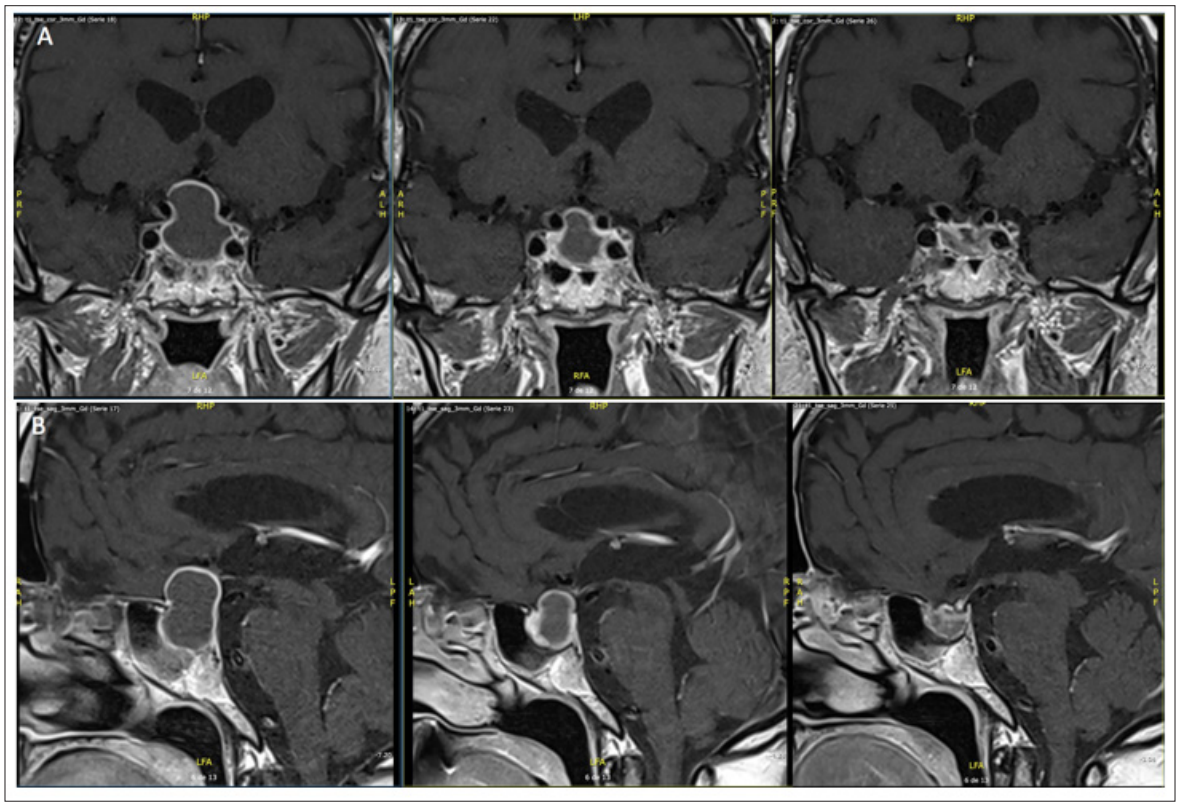

Figure 1: A. Coronal image. B. Sagittal image.
The images demonstrate the evolution of the macroadenoma at the moment of the pituitary apoplexy and the consecutive first month and 6 months after, respectively, and size of the mass decrease how is described in the text.

Discussion

The case corresponds to an ischemic-hemorrhagic pituitary apoplexy and compared to the little literature on the matter, this case differs because it was acute hyponatremia that led to the diagnosis. It is difficult to attribute the symptoms to the ischemic process or hyponatremia, which makes the case even more striking.

Although myocardial revascularization surgery has been described as a precipitant of pituitary apoplexy, it remains a rare complication, difficult to suspect and that can lead to fatal outcomes. Therefore, in cardiac operated patients, who evolve with neurological symptoms and fluid and electrolyte disorders that do not respond to initial measures, it is always pertinent to suspect causes that affect the neuro-endocrine axis.

Another point to note, that early suspicion and adequate management with intravenous corticosteroids, were the determining factors in the favorable outcome of the patient. As the British guidelines for pituitary apoplexy point out, faced with clinical suspicion, one must first take a blood sample to assess the neuroendocrine axes and then, without further delay, initiate systemic corticosteroids, initially intravenously. Repositioning of the other axes is important, but not urgent like the start of corticosteroids. Later, once the patient is stabilized, the oral treatment can be adjusted.

Neurosurgical management is reserved for patients with severe neuro-ophthalmological compromise, which a visual and neurological field evaluation is of utmost importance in these patients, to monitor and assess whether the deficit progresses or disappears with conservative measures, and in this way define if it requires surgical intervention.

Conclusion

As conclusion, whenever there is a well-founded suspicion that a patient with a pituitary apoplexy is being faced, considering the precipitating factors and the symptoms, the first thing to consider is the conservative management that implies taking blood samples, start intravenous corticosteroids, study with images, being the MRI of the sella turcica the choice, and the evaluation of the visual

field. Another interesting aspect to mention is the fact that the ischemic-hemorrhagic event of the macroadenoma would become a kind of "resolution" of the lesion as evidenced in this clinical case and others described in the literature, with the exception that the hormonal response, mainly corticosteroids, is essential for the survival of these patients.

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