INTRODUCTION

Hyponatremia can be considered a public health problem concerning both in- and out-patients. A correct diagnostic approach should consider a physical and radiological examination, to rule out the presence of edema, and both serum and urinary osmolality, to discriminate among the different causes and establish an adequate management. Cerebral Salt Wasting Syndrome (CSWS) and Syndrome of Inappropriate Anti-Diuretic Hormone Secretion (SIADH) are rare causes of hyponatremia during cerebral disorders. It is important to correctly differentiate between the two syndromes to determine the right therapeutic path. We present a case of SIADH secondary to a cerebral abscess in a patient with chronic sinusitis who underwent an endovascular cerebral procedure for the treatment of a giant saccular internal carotid artery aneurysm. His hyponatremia responded to sodium supplementation, raising doubts about the diagnosis. Application of the Maesaka’s algorithm is a useful tool to determine the right diagnosis.

CASE REPORT

A 65-year-old man came to the Emergency Ward of our hospital complaining of fever and headache a week after the endovascular treatment of a giant saccular internal carotid artery aneurysm in the ophthalmic segment. He was previously affected by chronic sinusitis, arterial hypertension, panhypopituitarism and progressive visual impairment for 5 years before the admission, due to the aneurysm slow growth. He had a fever (temperature over 38°C) at the admission, the physical examination was otherwise unremarkable. The blood count was within normal limits. Abnormal laboratory findings were a slight hyponatremia (sodium 129 mmol/L, normal 130-149) and a mild increase in C-Reactive Protein (CRP, 1.00 mg/dl, normal < 0.5). A CT head scan performed at the emergency ward highlighted a bilateral infection of the maxillary sinuses, and...
of choice in SIADH, fluid restriction, in CSWS, which therapy of choice is sodium and volume replacement, can result in severe negative clinical consequences6.

In our case, SIADH was diagnosed because of a low serum osmolality, a clinically estimated euvolemic of extracellular fluid (ECF), a normal serum cortisol and the patient’s history of cerebral abscess. However, the clinical assessment of the extracellular volemia (ECV) is a user-dependent method, not repeatable, thus not trustworthy, and an objective way to determine it is often not attainable7. Moreover, the patient’s hyponatremia progressively improved with the gradual resolution of the abscess and to the sodium supplementation, defining by the response to treatment a CSWS.

Maesaka et al7 introduced in 2012 the determination of the relationship between serum sodium and fractional excretion of urate (FEurate) to differentiate SIADH from CSWS. Determining serum urate would have been useful to establish the cause of hyponatremia using the algorithm proposed by Maesaka et al7.

**CONCLUSIONS**

Hyponatremia is a common occurrence after cerebral procedures or in the case of traumatic brain injuries. More studies are required to determine differences between CSWS and SIADH. It is necessary to keep in mind a path to the correct diagnosis.

**Conflicts of Interest:**
The Authors declare that they have no conflict of interests.

**REFERENCES**