Case report

‘This diagnosis was worth the salt’

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Case report

A 60-year-old lady was admitted to the intensive care unit of our hospital with a five month history of recurrent hyponatremia and confusional state. She had been investigated and treated in different hospitals with no significant improvement in the sodium levels. Clinical examination revealed a cachectic lady with dry skin (Figure 1) and altered sensorium. There were no meningeal signs, papilledema or focal neurological signs. Blood investigations revealed significant hyponatremia (Na 117 mEq/l). A chest X-ray was normal. Further lab work-up revealed hypo-osmolar hyponatremia, normal blood glucose, renal and liver function tests. Urine spot sodium was 61 mEq/l. Thyroid function tests revealed a TSH of 6.41 uIU/ml (normal range 0.5–8.9) with a very low T3 at 0.66 ng/dl (40–181) and a free thyroxine of 0.31 ng/dl (0.8–2.7). In view of the inappropriately normal TSH for the levels of T3 and T4, further pituitary function tests and imaging of the pituitary were carried out.

A random cortisol at 8 am was low for a critically ill patient at 8.24 mcg/dl (227 nmol/l), a short synacthen test, IGF-1 and prolactin assays could not be carried out due to non-availability. Gonadotropins were inappropriately low for a post-menopausal lady with a LH of 0.61 mIU/ml (normally >11 for post-menopausal women) and a FSH of 2.61 mIU/ml (post-menopausal range 24–82). MRI of the pituitary showed features consistent with empty sella syndrome (Figure 2).

A provisional diagnosis of partial hypopituitarism was made. Intravenous hydrocortisone was followed by thyroxine replacement. This resulted in a dramatic improvement in her mental and clinical state. Sodium levels normalized within 2 days of cortisol and thyroxine replacement. She was discharged 8 days later and was asymptomatic with normal serum sodium at a 4 week follow-up visit.

Discussion

Hyponatremia is a common clinical problem with reported prevalence rates as high as 15–30% among patients admitted to acute and intensive care units.1,2 Serious central nervous system complications can arise, not only from the disorder itself but from misdiagnosis and errors in management. We report a patient with symptomatic hyponatremia, who unfortunately had multiple admissions to different hospitals with worsening of her clinical condition. A systematic evaluation led to the diagnosis of hypopituitarism due to empty sella syndrome. Appropriate treatment resulted in a complete recovery as well as normalization of sodium levels.

An empty sella is an enlarged sella turcica that is not completely filled with pituitary tissue. Our patient had a primary empty sella, where there is a diaphragmatic defect in the sella which allows CSF pressure to enlarge the sella.3 In this condition, there is no identifiable disease of the sella. In a study of 213 patients with primary empty sella,4 40 patients had documented endocrine abnormalities (19%).
Nine patients (4%) in this study had global anterior hypopituitarism. While some experts argue that there is no definite evidence that primary empty sella is associated with hormonal deficiencies, we believe that an anterior pituitary function screen will be very helpful in excluding treatable endocrine deficiencies, as in our case.

Consent

Informed consent was obtained from the patient to publish her case along with clinical photographs.

Conflict of interest: None declared.

References