Case Report

HYPONATREMIA – A RARE AND EMERGENCY PRESENTATION OF SHEEHAN'S SYNDROME

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ABSTRACT

We present the case of a 29 year old female who presented to us with **e**lectrolyte abnormality, primarily hyponatremia in a setting of diarrhoea and moderate pallor. She had a significant past history of childbirth complicated with post partum haemorrhage after which she developed secondary amenorrhoea. Workup showed suppressed levels of all pituitary hormones and an empty sella on MRI brain. A diagnosis of Sheehan's syndrome presenting as hyponatremia- a rare but emergency presentation was made.

KEY WORDS: Sheehan's Syndrome, Hyponatremia.

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INTRODUCTION

Sheehan's syndrome or post partum necrosis of pituitary is very rare complication of post partum haemorrhage. It is generally first suspected as a result of lactational failure post partum and subsequent amenorrhoea. Hyponatremia is rare but acute presentation of Sheehan's syndrome. The main purpose of this case report is to highlight this under diagnosed entity and a rare presentation of this entity when the diagnosis can be both difficult and costly.

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CASE REPORT

We present the case of a 29 year married (for 14 years) Muslim female, a housewife from a village in Howrah district of West Bengal who presented to us at Medical College, Kolkata. She presented with diarrhoea for three days and gradually deteriorating state of health, drowsiness and diffuse body ache for three days.

On examination she was found to be disoriented, extremely restless and all her limb muscle groups were found to be tense and tender but without signs of inflammation. She had significant pallor and systemic examination was otherwise found to be normal. Routine investigations including electrolytes were ordered and the patient was managed for diarrhoea and electrolyte abnormality.

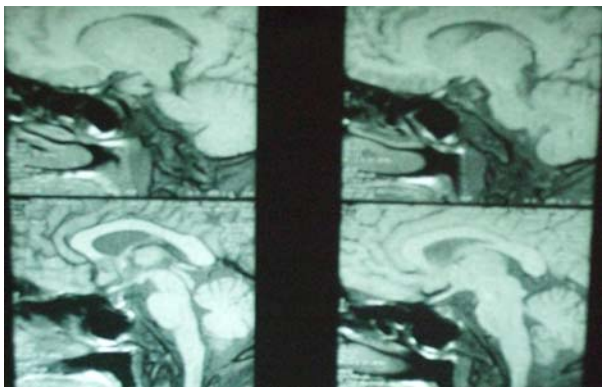

Fig-1

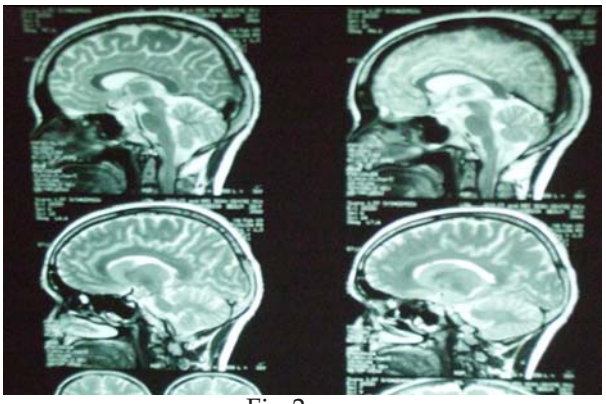

Fig-2

Figure-1 & 2: MRI brain and pituitary fossa showing empty pituitary fossa/ empty sella.

Investigation reports revealed moderate anaemia(7.4g%), normal counts, raised ESR (45 mm at 1st hour), low Na^+ (110mEq/L) normal K^+ (4.0mEq/L), a normal chest skiagram and normal renal and liver profile including blood sugar. An ultrasonography abdomen was also normal. A serum calcium was also ordered to rule the causes of spasm in limb muscles but was found to be nearly normal (8g %). In the mean time the patient was not improving and her serum sodium was not normalising even after sufficient sodium supplementation (oral and parenteral) Enquiring further into the past history of the patient we found that she had a history of child birth 11 years back when she had profuse post partum haemorrhage, requiring blood transfusion.

In the post partum period she had failed lactation and amenorrhoea, which persists till now. She has received multiple courses of drugs (mostly hormonal pills) outside for this problem but to no avail. This led us to investigate her for causes of secondary amenorrhoea (Table-I) and a thyroid profile was ordered to start with, all three TSH, fT4, fT3 were found to be very low. Along similar lines gonadotrophins (fasting and pooled samples) were sent, the results were as expected, Prolactin- 0.78 mg/ml, FSH- 4.03 mIU/ml, LH- 3.29 mIU/ml. We were inching close to diagnosis of hypopituitarism in so trivial a presentation of diarrhoea and hyponatremia. Among the most probable causes of this condition Sheehan's disease was strongly considered and a serum fasting ACTH and 8 am cortisol after a cosyntropin challenge test was undertaken, as expected both ACTH and cortisol were much below normal levels. A MRI brain and pituitary further established the diagnosis with an empty sella. So the patient turned out to be a case of Sheehan's disease presenting with hyponatremia as an emergency not corrected with sodium support. The patient was started on steroids to start with and then thyroxin replacement therapy along with

Table-I: Causes of Secondary Amenorrhoea

Pregnancy
Systemic
Thyroid disease
Polycystic ovary syndrome
Chronic renal failure
Adrenal disease
Ovarian
POF/premature menopause
Uterine
Ashermann's syndrome
Anterior pituitary
Pituitary tumours
Hyperprolactinaemia
Empty sella syndrome
Sheehan's syndrome ·
Lymphocytic adenohypophysis
Hypothalamic
weight loss
exercise
stress
drugs (via altered prolactin secretion)
CNS disorders including tumors, trauma, irradiation

combined oral contraceptive pills(in consultation with gynaecologist) were instituted and the serum sodium was corrected shortly without any need for supplementation and within two months here anaemia improved(9g%) and she started menstruating.

DISCUSSION

Sheehan's syndrome is an extremely rare complication of pregnancy usually occurring after excessive post-partum blood loss initially described in 1937.[1] The anterior pituitary is perfused primarily by the portal venous system which is a low pressure system. As a consequence, enlargement of pituitary cells, particularly the lactotrophs in pregnancy occurs without a matching increase in blood supply.[2] So whenever the pituitary becomes vulnerable to hypoperfusion in post partum period, ischemic necrosis of the pituitary results. It is commonly suspected when the mother complains of failure or difficulty in lactation and amenorrhea following child birth. (Secondary amenorrhea) Causes in Table-I.[1,2]

Sheehan's syndrome can range from panhypopituitarism to selective hormone loses.[3-5] In some cases, the diagnosis is not made until many years when features of secondary hypothyroidism or secondary adrenal insufficiency develop, (as in this case) resulting from a stress.

Hyponatremia is a rare acute presentation of Sheehan's syndrome.[6-8] Several mechanisms can cause this presentation. Hypothyroidism and glucorticoid deficiency by decreasing free water clearance independent of vasopressin causes hyponatremia. Hypopituitarism can stimulate vasopressin secretion causing hyponatremia by inappropriate ADH secretion.

Diagnosis of Sheehan's syndrome is often difficult; a high index of suspicion is needed to diagnose this entity. Deficiency of various pituitary hormones and their target hormones produces a variety of symptoms. Stimulation tests (insulin or metyrapone) are needed only if a partial deficiency is suspected. MRI brain and pituitary fossa may show a empty sella but is neither diagnostic nor mandatory.[9]

As a therapy for the disorder steroids in the form of hydrocortisone is first instituted followed by thyroid supplementation and sex steroids addition (estrogen). This order of replacement is necessary to prevent the hazardous adrenal crisis.[10-11]

Hydrocortisone is given in a dose of 15 mg in morning and 5 mg in evening(20 mg/ day) So though Sheehan's syndrome is rare due to improved obstetric care it should be investigated for in cases with history of post partum bleeding and pituitary failure now, further a rare but emergency presentation, HYPONATREMIA must be kept in mind.

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