CASE REPORT

CASE SERIES-METABOLIC ABNORMALITIES A CLUE FOR HYPOPITUITARISM IN MIDDLE AGE AND ELDERLY POPULATION- A DIAGNOSTIC CHALLENGE

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ABSTRACT: The clinical presentations of hypopituitarism in the middle aged and elderly people differ from adolescents and young adults. The symptoms are non-specific with variable duration of onset and they may present with altered sensorium, psychiatric manifestations or metabolic abnormalities. Thus offering a diagnostic challenge for the clinician. Metabolic abnormalities offers a clue to their early diagnosis and hence prompt treatment.

KEYWORDS: Hypopituitarism, metabolic abnormalities, geriatric population.

INTRODUCTION: Total estimated prevalence of hypopituitarism is estimated to be around 4million in the year 2000.¹ the etiology of hypopituitarism is different in tropical countries as compared to the West. Awareness of the various etiologies of pituitary dysfunction, as well as recognition of their subtle clinical features, is necessary for optimal management of the patient.²

Hypopituitarism follow a smouldering course unless it has onset with pituitary apoplexy hence more likely to be missed.³ We present 3 cases of hypopituitarism which presented predominantly with metabolic abnormalities, recognition of which can have both diagnostic and therapeutic implications specially in middle age and elderly population where pan hypopituitarism can be frequently missed.

CASE REPORT: The first patient is a 48-year-old diabetic gentleman who was admitted for urinary tract infection and developed recurrent hypoglycemic episodes in-hospital in spite of withdrawal of insulin therapy and continuous intravenous glucose infusion. He had mild renal impairment also. His cortisol was 18.35 nmol/l and thyroid hormone levels (TSH – 1.10 mIU/ml; Free T4 0.45 ng/dl) were low and MRI brain revealed features of a partial empty sella.

The second patient is a 75-year-old lady who presented with a two year history of multiple hospital admissions elsewhere for recurrent episodes of vomiting. She had hyponatremia along with low cortisol (34.49 nmol/l) and gonadotropin (FSH 0.495 IU/ml) levels. Retrospective history revealed features of Sheehan's syndrome. An old report done elsewhere was consistent with central hypothyroidism. MRI of pituitary showed an empty sella.

The third patient is a 50-year-old gentleman who was admitted for abnormal behavior and apathy of two months duration. He was found to have subtle features of hypogonadism clinically (scanty body hair) and had hyponatremia (111 meq/l) along with low cortisol (98 nmol/l), FSH (2.1 IU/ml) and thyroid hormone levels (TSH -0.55 mIU/ml; FT4 0.66 ng/dl). MRI of the brain could not be done.

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Fig. 1: T2W Coronal Image Case 1. Showing partial Empty Sella. Patient 1

Fig. 2: T1W Sagittal image of case 2 showing Empty Sella. Patient 2

DISCUSSION: Hypopituitarism is defined as deficiency of one or more hormones of the pituitary gland which can result from diseases of the pituitary gland or from diseases of the hypothalamus. ^(1,4) Hypo pituitarism has varied etiology, most common being pituitary adenomas (Macro 75 % and others 20%), Sheehan syndrome, familial hypopituitarism, idiopathic, hypophysitis, empty sella syndrome, snake bite being other causes.⁵

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Similarly clinical features has a spectrum including visual disturbance, headache, pituitary apoplexy, acromegaly, hypothyroidism, short stature, menstrual disturbance and others, making the diagnosis challenging.⁵

Prepubertal onset of hypopituitarism is associated with distinct clinical features. But late adult onset of hypopituitarism particularly single hormone deficiency may be missed many a times. On the other hand, multiple pituitary hormone deficiency state can present atypically

Our patients had post-pubertal onset hypopituitarism which has occurred after they have passed through normal adulthood. Hence the typical clinical features of hypopituitarism were not found in them. They mainly presented with metabolic and behavioral abnormalities

Our first patient's persistent hypoglycemic episodes could not be explained by the mild renal compromise prompted evaluation of the cortisol status which lead us to the diagnosis of hypopituitarism.

Central hypothyroidism can be missed sometimes as in our second patient. Careful interpretation of thyroid hormones including Free T4 values is essential. Our second case also has once again proved that Sheehan's syndrome can present at a geriatric age. Hence a high level of suspicion clinically can help in the diagnosis.

Unexplained metabolic abnormalities like hypoglycemia in spite of insulin withdrawal and hyponatremia were the clues for pituitary hormone deficiency in our patients. These type of patients have the risk of being misdiagnosed as metabolic encephalopathy and may require repeated hospitalizations if hypopituitarism is missed. Hence evaluation of hormonal status in these type of presentations should be done promptly. This case series assumes significance reaffirming that keen clinical observation and subtle metabolic abnormalities can help diagnosis in challenging clinical situations.

CONCLUSION: The clinical manifestations of hypopituitarism are diverse depending on the age, underlying etiology, extent and duration of the pituitary hormone deficit. Metabolic abnormalities like unexplained hypoglycemia and hyponatremia are important clues for an underlying hypopituitarism which should be evaluated carefully.

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