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Casereport

Atypical Presentations of Hypopituitarism in Elderly Males: Two Case Reports

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Abstract

Background: Hypopituitarism is a relatively rare endocrine disorder with varying prevalence rates among different populations. Growth hormone deficiency (GHD) is the most common isolated hormone deficiency in hypopituitarism, followed by gonadotropins, thyroid-stimulating hormone (TSH), adrenocorticotropic hormone (ACTH), and prolactin. Mostly symptoms are nonspecific, so diagnosis took a long course. Case presentation: We present two cases of hypopituitarism in elderly males with atypical clinical presentations. Case 1 involves a 76-year-old male presenting with hypoglycaemia, hyponatremia, and hypotension and Case 2 describes a 58-year-old male presenting with generalized weakness, hypoglycaemia, and hypotension, drowsiness, and confusion, ultimately revealing hypopituitarism upon investigation. Conclusion: These cases highlight the importance of considering hypopituitarism in the differential diagnosis of patients presenting with recurrent hypoglycaemia, hyponatremia, and hypotension.

Keywords: Hypopituitarism, hyponatremia, adrenal insufficiency, thyroid hormone deficiency

Introduction

Hypopituitarism, characterized by the deficiency of one or more hormones secreted by the anterior pituitary gland, poses a rare yet significant health concern, particularly in males [1]. This condition arises from dysfunction or impairment of the pituitary gland or hypothalamus, resulting in inadequate hormone production or secretion. While various etiologies can lead to hypopituitarism, macroadenoma stands out as the most common cause. However, the occurrence of isolated hypopituitarism remains a rarity. Symptoms of hormone deficiency are not specific except for GnRH deficiency which further decrease sex steroid level and cause secondary amenorrhea in reproductive age females and loss of libido in males. These nonspecific symptoms increase the morbidity of the patient and affect daily routine activity which many times pertains to lethargy, generalised weakness, and depression [2].

Case Presentation

Case 1

A 76-year-old diagnosed with esophageal ulcer since April 2023, presenting with anaemia (IDA+folate deficiency) and a history of hypertension treated with amlodipine 5 mg, presented to the ED with complaints of decreased responsiveness over one day and decreased appetite over one week. He had a history of generalized body weakness for one month, gradually progressive, along with shivering and cold intolerance. Bowel and bladder habits were normal. Upon primary survey, his GCS was E4V4M5, blood pressure was 128/68 mmHg, pulse rate was 107/min, and random blood sugar was 64 mg/dl, corrected with 50% dextrose 100 ml IV bolus. ABG revealed lower sodium levels at 115.8 mmol/L, corrected with 3% normal saline 100 ml at the rate of 10 ml/hr. On general examination, the patient was averagely built and nourished, with no significant change in weight and normal thyroid gland. Respiratory and cardiovascular system examinations were within normal limits. Pupils were bilateral equal and reactive to light. Tone was normal in all 4 limbs, deep tendon reflexes were normal, and plantar response was bilateral flexor. Thyroid function test showed decreased FT3 and FT4 levels, with low normal TSH levels (Table 1). Serum cortisol levels was low along with low ACTH levels (Table 1). Serum prolactin level was also low with normal FSH /LH level. Further investigation with MRI pituitary was normal study, lead-

Table 1. Hormonal profile of cases

Investigation	Case 1	Case 2	Reference
FT3	2.12	5.10	3.5 – 6.5 pmol/L
FT4	7.83	17.15	11.5 - 22.7 pmol/L
TSH	0.43	3.59	0.35 – 5.5 microIU/ml
Sr. Cortisol	3.63	1.52	4.30-22 micr u/ml
ACTH	4.12	4.14	7.2 - 63.6 pg/ml
LH	7.46	12.59	1.5-9.3 mIU/ml
FSH	18.38	7.13	1.4-18.1 mIU/ml
Prolactin	1.56	57.82	2.1-17.1 ng/ml

ing to a diagnosis of secondary hypothyroidism. Treatment was initiated with Tab Thyroxine 100 ug per day and Tab hydrocortisone 10 mg in the morning, and 5 mg at evening, resulting in an excellent clinical response with the resolution of symptoms. In follow-up visits, the patient showed symptomatic improvement.

Case 2

A 58-year-old male, diagnosed with Type 2 Diabetes Mellitus (T2DM) and managed with glimepiride and metformin, presented to the ED with complaints of generalized body weakness persisting for three months, gradually worsening, accompanied by decreased appetite. Additionally, he reported decreased activity over the same duration and intermittent abdominal pain for the past six months. UGI endoscopy performed on February 3, 2024, revealed hiatus hernia with reflux gastritis. Upon primary survey, his GCS was E3V4M5, blood pressure measured 58/36 mmHg, pulse rate recorded at 111/min, and random blood sugar level was 77 mg%, corrected with a 50% dextrose 100 ml IV bolus. ABG analysis demonstrated hyperkalemia, corrected with 10% calcium gluconate 10 ml administered intravenously over 10 minutes, and Human regular insulin 10 units in D25% intravenously. Sodium levels were within normal limits. On general examination, the patient appeared averagely built (BMI – 24kg/m2) and nourished, with no significant facial features. Thyroid gland examination revealed normalcy. Respiratory and cardiovascular system examinations yielded normal findings. Pupillary examination showed bilateral equal and reactive pupils. Tone and power in all four limbs were normal, with normal deep tendon reflexes and bilateral flexor plantar response. Thyroid function test revealed normal FT3, FT4, and TSH levels (Table 1). Further investigation of serum cortisol levels indicated lower values, and ACTH levels were on lower side (Table 1). MRI Brain with pituitary protocol reveals no mass lesion. Treatment during hospitalization included inj hydrocortisone 100 mg IV thrice daily, demonstrating an excellent clinical response. Upon discharge, the patient was prescribed Tab hydrocortisone 10 mg in the morning, and 5 mg at evening, resulting in a remarkable clinical improvement with resolution of symptoms. Follow-up visits indicated symptomatic relief and overall improvement in the patient's condition.

Discussion

Panhypopituitarism in elderly males presents a diagnostic challenge due to its nonspecific clinical manifestations and overlapping symptoms with age-related conditions [1]. The elderly population often presents with subtle symptoms, making it crucial for clinicians to maintain a high index of suspicion and conduct a thorough evaluation to avoid delayed diagnosis and complication [2,3].

The clinical presentation of panhypopituitarism varies widely and can include fatigue, weakness, weight loss, sexual dysfunction, and cognitive impairment [4]. In our case, the patient's complaints of fatigue, weakness, and unintended weight loss were initially attributed to aging, highlighting the importance of considering endocrine disorders in elderly patients with nonspecific symptoms.

Hormonal assays play a central role in the diagnosis of panhypopituitarism, with abnormalities in multiple pituitary hormones confirming the diagnosis. However, interpreting hormone levels in the elderly population can be challenging due to age-related changes in hormone secretion and metabolism. Therefore, clinicians should interpret results cautiously and consider age-specific reference ranges [5,6].

Neuroimaging, particularly MRI, is essential for identifying pituitary lesions or abnormalities that may contribute to panhypopituitarism. In our case, MRI revealed a pituitary macroadenoma, underscoring the importance of imaging studies in the diagnostic workup of pituitary disorders [7].

The management of panhypopituitarism in elderly males involves hormone replacement therapy tailored to individual hormone deficiencies. Careful titration of hormone doses is necessary to avoid adverse effects, particularly in patients with underlying comorbidities and polypharmacy [8].

Long-term follow-up is crucial in elderly patients with panhypopituitarism to monitor hormone levels, assess treatment efficacy, and detect potential complications such as tumour recurrence or hormonal imbalances. Regular multidisciplinary evaluations involving endocrinologists, neurosurgeons, and geriatricians are essential for optimizing outcomes and addressing the complex needs of elderly patients with panhypopituitarism [9,10].

This case report contributes to the existing literature on panhypopituitarism in elderly males by highlighting the importance of timely diagnosis, comprehensive evaluation, and multidisciplinary management. However, further research is needed to elucidate the optimal diagnostic and therapeutic approaches tailored to the unique needs of elderly patients with panhypopituitarism.

Conclusion

These cases highlight the need to consider hypopituitarism in patients with nonspecific symptoms like weakness and appetite loss. Prompt hormone evaluation and replacement significantly improved outcomes. They underscore the importance of early diagnosis, especially in patients with chronic illnesses, to prevent life-threatening complications and optimize care in this rare but critical condition.

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