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Case Report

# Addison's Disease: A Case Report in Primary Care

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**Abstract**

Addison's disease is a rare endocrine condition. This is a case report of a patient with Addison's disease, who presented at a Singaporean primary care clinic with non-specific complaints of fatigue, reduced effort tolerance, hyperpigmentation of skin and features of depression. This case emphasizes the need for a broad approach to the undifferentiated symptoms in the primary care setting. It highlights clinical pearls relevant to any consult-a thorough consideration of the patient's presenting complaint coupled with a perceptive physical examination, alongside considerations of using mobile technology and evidence based information to augment our daily practice.

**Keywords:** Addison's Disease; Endocrine; Primary Care

## Case Presentation

Patient A, a 58-year-old Indian lady, presented with 2 weeks of generalized lethargy, low mood as well as non-specific exertional dyspnea with reduced effort tolerance. This was the first time she had experienced such symptoms. She later offered a history of hyperpigmentation of her face, which bothered her significantly and contributed to her low mood. Over the past two years, she had noticed gradual darkening of her face and lips. This was corroborated with photographic evidence showing stark darkening of her face in the last 10 months. The facial hyperpigmentation was not pruritic or painful. There was no new drug usage, change in her facial products, or increased sun exposure. She had undergone five courses of laser treatment at an aesthetic clinic to treat her hyperpigmentation but saw no improvement.

She was frustrated and upset with the hyperpigmentation and her lethargy. Prior to the onset of her symptoms, she had been a fit individual with no significant health concerns. Her PHQ-9 score indicated moderately severe depression (score of 17) with persistent anhedonia, fatigue, poor appetite, insomnia, and psychomotor retardation.

The patient also had pre-existing type II diabetes mellitus and hyperlipidemia, and was taking Metformin 250mg BD. She also had an adrenal incidentaloma for which she was on follow up with an endocrine clinic. 4 months prior to her presentation, she had undergone a 24-hour dexamethasone suppression test, which was appropriately suppressed. Besides this, her past medical history was not significant for any known neuropsychiatric diseases, nor did she have any known cardiovascular, respiratory, renal issues or endocrinological issues that could explain the new symptoms.

On physical examination, the patient was alert, not cachectic and her mucous membranes were moist. Her initial vitals were as followed: blood pressure 106/59mmHg and heart rate 117 beats per minute. On repeated measurement, her blood pressure dropped to 90/52mmHg, and her heart rate was 100 beats per minute. There was hyperpigmentation of her face, vermillion border of her lips and palmar creases of both hands. Longitudinal melanonychia were seen in the index and middle finger nails of both hands. There was no pallor, lymphadenopathy, neck swelling or goiter. She appeared weak and had proximal myopathy with some difficulty standing up from a seated position. However, there was no hyporeflexia of the upper or lower limbs. The remaining physical examination of the cardiovascular, respiratory and abdominal systems were unremarkable.

Laboratory investigations in the clinic showed hyponatremia with hyperkalemia (Table 1). In view of her symptoms, physical signs and investigation results, a preliminary diagnosis of Addison's disease to rule out Addisonian crisis was made and she was promptly referred to a tertiary hospital Accident and Emergency Department where she was admitted and initiated on hydrocortisone treatment. Six weeks later, she returned to the primary care clinic for routine review of her diabetes. Following successful treatment, her blood pressure had normalized, her lethargy, dyspnea and mood had improved and the hyperpigmentation had started to resolve.

## Discussion

While the exact prevalence of Addison's disease and its specific etiologies is not well described, it is invariably considered a rare condition globally [1,2] with diverse, non-specific manifestations. The most ominous presentation would be the patient in adrenal crisis [3] who presents to the emergency department with marked hypotension or in a coma. Given the non-specific nature of these complaints alongside the dire consequences [4] of missing such a diagnosis, it is crucial that we improve our detection rate [5].

Generally, the clinical symptoms of Addison's disease include fatigue, weight loss, anorexia, postural dizziness, abdominal discomfort with signs of skin hyperpigmentation and postural hypotension and laboratory findings of hyponatremia with hyperkalaemia [6]. Of note, the most specific sign of primary adrenal insufficiency is hyperpigmentation of the skin and mucosal surfaces [7], as was seen in Patient A. The distribution of hyperpigmentation often involves sun-exposed areas (face, neck) or areas exposed to constant friction. Specific regions also include the palmar creases, vermillion border of the lips as well as nails [8].

Common misdiagnoses for a patient with such varied symptoms with prominent fatigue would include depression [9] and


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**Table 1:**

| Result | Value | Reference Range |
|---|---|---|
| Hemoglobin | 13.4g/dL | (10.90-15.10) |
| MCV | 85.30fl | (80.00-95.00) |
| MCHC | 34.40g/dL | (32.00-36.00) |
| Total White | 8.710 x $10^9$cells/L | (3.400-9.600) |
| Platelet | 323.0 x $10^9$cells/L | (132.0-372.0) |
| Sodium | 126mmol | (135-145) |
| Potassium | 5.5mmol | (3.5-5.1) |
| Creatinine | 117umol/L | (44-79) |
| Glucose | 10.2mmol/L | (4.0-7.8) |

hypothyroidism, which are both prevalent in primary care. In Patient A's case, the consultation was initially geared towards a holistic management of the bio-psycho-social side effects of possible mood disorders but later directed to consider other differentials once the history of hyperpigmentation was offered. It was fortuitous that the attending team detected her condition early to avoid progression into adrenal crisis.

This undifferentiated case in the primary care setting highlights several key learning points for the primary care physician.

- With regards to diagnosis, it is of paramount importance to take patient's concerns seriously. Professor Goh LG, a luminary in the Singaporean medical community, penned the following "What is apparently trivial to the doctor may be of great worry to the patient. Our job as effective doctors is to elicit if the symptom has a special meaning and concern to the patient. Only then could we begin to help the patient" [10]. This is especially so if they have seen other physicians for the same concern or sought treatment before. In the case of Patient A, failure to consider the darkening of her face - a condition that she had already been seeking medical help for- could have resulted in a total misdiagnosis of her presentation.

- The use of mobile technology can greatly aid in the assessment of symptoms and signs [11,12]. Mobile phones are ubiquitous [13] and many patients use them to photograph their clinical concerns. This can help the physician who may be seeing the patient for the first time make an objective diagnosis and aid in keeping track of changes in the patient's clinical condition. It is thus useful to advise our patients to keep photographic records of their clinical presentation especially when signs evolve. Patient A had a recent collection of self-portraits for our perusal, which unequivocally demonstrated darkening of her general complexion.

- As the scope of primary care is very broad, it is vital for clinicians to have prompt access to evidence-based sources of information during consultations to aid diagnosis and management of unfamiliar conditions. In the case of Addison's disease, many primary care clinicians who have not encountered it may not be familiar with its range of clinical features. An easily accessible information source enabled us to piece together the key features and confidently diagnose the condition in Patient A.

- Finally, this case brings to the forefront the fundamentals of a thorough physical examination to aid diagnosis of vague presenting complaints on history. In fact, the undifferentiated clinical problem demands an even rigorous physical examination [10]. On the topic of fatigue, Professor Murtagh J emphasized that it would be wise to have a good look at the patient especially the facial features for signs of physical disease or mental distress [13]. True to this case, lips, palmar creases and nails noted the hyperpigmentation in Patient A that guided our diagnosis.

## Conclusion

The time-tested principles of good consultation should not be neglected even in today's time limited primary care consult, especially for patients with undifferentiated symptoms. The rudiments of a patient-centric history taking coupled with a detailed physical examination augmented by the use of photo-documentation by patient's personal mobile device and aided by access to accurate information during the consultation allowed for a fruitful clinical encounter and diagnosis of this rare endocrinological condition.

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