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Autoimmune Polyendocrine Syndrome Type 3 - A Multisystem Challenge: A Rare Case Report

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Abstract: ***Autoimmune polyendocrine syndromes (APS) are characterized by coexistence of multiple autoimmune endocrine and non-endocrine disorders. APS Type 3 is defined by autoimmune thyroid disease associated with other autoimmune disorders excluding Addison's disease. We report a rare adolescent case of APS-3 with autoimmune thyroiditis, type 1 diabetes mellitus, autoimmune hemolytic anemia, systemic autoimmune features, and primary ovarian failure presenting as primary amenorrhea.***

Keywords: autoimmune polyendocrine syndrome type 3, autoimmune thyroiditis, type 1 diabetes mellitus, autoimmune hemolytic anemia, primary ovarian failure

1. Introduction

APS represent immune dysregulation with clustering of autoimmune diseases. APS-3 is heterogeneous and often underdiagnosed due to variable presentations. Early recognition is essential to prevent morbidity.

2. Case Report

A 16-year-old female presented with fever, severe anemia, and primary amenorrhea. Examination revealed pallor, tachycardia, brittle nails, prepubertal secondary sexual characteristics, and mild splenomegaly.

3. Investigations

Investigations revealed severe autoimmune hemolytic anemia with positive DAT, autoimmune thyroiditis with elevated TSH and anti-TPO antibodies, type 1 diabetes mellitus with positive anti-GAD antibodies, low C-peptide, and primary ovarian failure with elevated gonadotropins and infantile uterus.

4. Diagnosis

A diagnosis of Autoimmune Polyendocrine Syndrome Type 3 was made based on multisystem autoimmune involvement without adrenal insufficiency.

5. Management

The patient was managed with insulin therapy, levothyroxine, corticosteroids, and hydroxychloroquine with multidisciplinary follow-up.

6. Discussion

This case highlights the rare association of APS-3 with autoimmune hemolytic anemia and primary ovarian failure in adolescence, emphasizing autoimmune clustering and the need for comprehensive evaluation.

7. Conclusion

APS-3 is a rare but important diagnosis requiring high clinical suspicion and coordinated care.

Conflict of Interest
The authors declare no conflict of interest.

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