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Research Article

Van Maldergem Syndrome-1 with Central Precocious Puberty: Expanding the Clinical and Genetic Spectrum

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Abstract

Van Maldergem syndrome-1 (VMS-1) is an ultrarare autosomal recessive disorder caused by pathogenic variants in DCHS1. The recently reported case of a Chinese girl with concurrent VMS-1 and central precocious puberty (CPP) highlights novel clinical and genetic findings. This commentary discusses the significance of the case, its contribution to the mutational spectrum of DCHS1, the potential relationship between VMS-1 and endocrine manifestations, and directions for future research.

Keywords: CPP; DCHS1; Mutation; Neurodevelopmental Impairment; VMS-1

Introduction

Since its first description in 1992, VMS has been recognized as a multisystem disorder involving neurodevelopmental impairment, craniofacial anomalies, and skeletal malformations [1]. To date, fewer than 20 VMS cases have been documented worldwide, posing challenges for clinical recognition and management. Our team recently described a girl harboring compound heterozygous variants in DCHS1 who presented not only with characteristic features of VMS-1 but also with CPP—a novel association not previously reported [2].

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Key Insights from the Case

- Novel variants: The identification of DCHS1 variants (p.Val2039Met and p.Arg866Gln) adds to the limited mutational repertoire of VMS-1.
- Unique endocrine phenotype: While most reported patients exhibit growth retardation or hypogonadism, this case presented with CPP, controlled effectively with leuprorelin acetate therapy.
- Stable neurodevelopment: Despite intellectual disability and motor incoordination, the patient's condition remained stable over two years, underscoring the relatively mild disease severity.

Significance

This case broadens the phenotypic spectrum of VMS-1 and raises intriguing questions regarding possible endocrine involvement. Whether CPP is coincidental or mechanistically linked to DCHS1-related pathways remains unclear. Given the role of the DCHS1–FAT4 axis in neurogenesis and skeletal development [3,4], its potential impact on hypothalamic–pituitary regulation warrants further exploration. Moreover, the absence of standardized treatment strategies for VMS emphasizes the importance of multidisciplinary management and long-term follow-up.

Conclusion

The coexistence of VMS-1 and CPP in this patient extends both the clinical and genetic landscape of an ultrarare disorder. Each additional case contributes significantly to refining diagnosis, guiding management, and stimulating mechanistic research. Greater awareness among clinicians, coupled with systematic data collection, will be critical to improving outcomes in VMS-1.

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References

1. Cappello S, Gray MJ, Badouel C, Lange S, Einsiedler M, et al. (2013) Mutations in genes encoding the cadherin receptor-ligand pair DCHS1 and FAT4 disrupt cerebral cortical development. Nat Genet 45: 1300-1308.
2. Wang Y, Ying L, Dai Y, Jiang X, Liu Z, et al. (2025) Van Maldergem syndrome-1 in a patient with central precocious puberty: A case report. Medicine (Baltimore) 104: 43550.
3. Beste C, Ocklenburg S, Hagen M, Donato ND (2016) Mammalian cadherins DCHS1-FAT4 affect functional cerebral architecture. Brain Struct Funct 221: 2487-2491.
4. Crespo-Enriquez I, Hodgson T, Zakaria S, Cadoni E, Shah M, et al. (2019) Dchs1-Fat4 regulation of osteogenic differentiation in mouse. Development 146: 176776.

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