



FEATURES OF PUBERTAL DEVELOPMENT IN GIRLS WITH SIGNS OF UNDIFFERENTIATED CONNECTIVE TISSUE DYSPLASIA: CLINICAL, HORMONAL AND ULTRASOUND ANALYSIS

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Relevance: Undifferentiated connective tissue dysplasia (UCTD) is a common polygenic condition associated with structural and functional changes in collagen and extracellular matrix synthesis. In adolescent girls, UCTD may influence the timing and quality of pubertal development, menstrual function, and reproductive organ formation. Despite its frequency, UCTD often remains underdiagnosed and is rarely considered as a risk factor for hormonal imbalance in puberty.

Keyword: connective tissue dysplasia, puberty, adolescent girls, prolactin, testosterone, menarche, ultrasound, hormones.

Aim

To assess the features of pubertal development in girls with signs of UCTD using clinical, hormonal and ultrasound parameters.

Materials and Methods

A total of 76 girls aged 8 to 17 years were examined. Inclusion criteria: ≥ 3 signs of UCTD (joint hypermobility, mitral valve prolapse, myopia, flat feet, skin hyperextensibility, asthenic body type).

The assessment included:

Pubertal staging (Tanner scale);

Gynecological history (age of menarche, cycle regularity);

Hormonal tests (LH, FSH, prolactin, testosterone, estradiol);

Pelvic ultrasound (uterus and ovary size, follicular development).

Results

Delayed pubertal stage (Tanner ≤ 2 at age 13–14) was observed in 23.7% of girls.

Menarche after age 14 was reported in 31.6%;





Irregular menstrual cycles >1 year after menarche — in 38.2%.

Hormonal profile:

-Elevated prolactin in 36.8% (mean 34.2 ± 3.1 ng/mL);

-Elevated testosterone in 28.9% (2.4–3.8 nmol/L);

-LH/FSH levels below age norms in 42.1%.

Pelvic ultrasound findings:

-Reduced uterine length (<38 mm) in 32.9%;

-Ovarian hypotrophy (<3.5 cm³) in 35.5%;

-Poor follicular development in 26.3%.

Conclusion

Girls with signs of UCTD show a high incidence of delayed puberty, hypoestrogenism, and structural underdevelopment of reproductive organs. Hormonal disturbances, including hyperprolactinemia and hyperandrogenism, emphasize the need for early screening and longitudinal observation. A multidisciplinary approach involving pediatricians, endocrinologists, gynecologists, and ultrasound specialists is required for effective management.

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