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TITLE

THE IMPACT OF SEX HORMONES REPLACEMENT THERAPY ON METABOLIC STATUS IN TURNER SYNDROME

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ABSTRACT

Context: The proper use of Sex Hormone Replacement Therapy (SHRT) in Turner syndrome (TS) is challenging, the choice of optimal treatment remains controversial.

Objective: to assess the impact of SHRT on metabolic parameters in TS.

Methods: There were 75 patients with TS enrolled into the perspective cross-section study. According to the age at SHRT initiation (EI), participants were divided into two groups: < 15 years (yrs) (G_1); ? 15 yrs (G_2). The difference in metabolic status between natural estrogens (NE), combined oral contraceptive (COCs) users and untreated patients (no_SHRT) were analysed also. Anthropometric parameters (AP), heart ratio (HR), blood pressure (BP), carbohydrates (C) and lipids (L) profiles were evaluated in relation to the SHRT.

Results: The mean age of participants was 28 (±10) yrs. SHRT <15 yrs was initiated in 59 %, ? 15 yrs in 41 % of TS patients. NE were used in 51 % of the cases, 28 % were on COCs, 21 % of TS did not receive any SHRT. No significant differences in C, L profiles, AP, HR, BP between G_1 and G_2 or between NE and COCs users were found. The lower levels of fasting glucose (4,9 ±0.6 compared with 5,8 ±2,3, p=0,012), total cholesterol (4.9±0.8 compared with 5,5±0,9, p=0.024) and low-density lipids (2.8±0.6 compared with 3.2±0,9, p=0.033) were found in patients who were on treatment with estrogens (NE or COCs) compared with no_SHRT group. The rate of C disorder was higher in no_SHRT (37 %) compared with treated patients (12%), p=0.028.

EI correlated with the age (r=0.493, p<0.001), BMI (r=0.267, p=0.024) systolic (r=0.434, p<0.001) and diastolic (r=0.31, p=0.008) BP. When adjusted for age relation between EI and BP remained insignificant.

Conclusions: High proportion of TS did not receive any SHRT leading to the poorer metabolic control. No negative relation between the COCs and metabolic parameters was found.

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