Metabolic profile in survivors of pediatric hematopoietic stem cells transplantation after chemotherapy-only conditioning

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Background

Metabolic syndrome (MS) is a long-term complication of pediatric haematopoietic stem cell transplantation (HSCT) and it was described more often in patients who were exposed to total body irradiation (TBI). Since previous studies reported discrepancy in the presence of metabolic complications in HSCT survivors who underwent chemotherapy-only conditioning, we investigated the frequency of MS in our HSCT-treated children for various disorders without being exposed to TBI in the conditioning regimen.

Methods

- 29 pediatric HSCT survivors after chemotherapy-only conditioning were compared with 16 healthy subjects matched for age and sex.
- MS was defined according to the criteria of Ferranti et al. as ≥3 of the following:
  1. fasting triglycerides ≥ 1.1 mmol/L (100 mg/dL);  
  2. HDL <1.3 mmol/L (50 mg/dL), except in boys aged 15 to 19 years, in whom the cutpoint was <1.2 mmol/L (45 mg/dL);
  3. fasting glucose ≥ 6.1 mmol/L (110 mg/dL);
  4. waist circumference (WC) >75th percentile for age and gender;  
  5. systolic blood pressure (BP) >90th percentile for gender, age, and height.
- Total body fat and android/gynoid (A/G) ratio were assessed by dual-energy X-ray absorptiometry (DXA) in 22 HSCT recipients. Body fatness cutoffs were chosen according to Freedman et al.

Table 1. The characteristics of survivors of pediatric HSCT and controls in our study

![Table 1](https://example.com/table1.png)

Conclusions

This study demonstrates that pediatric HSCT survivors who underwent chemotherapy-only conditioning are also associated with an unfavorable metabolic profile, one third of them presenting at least one MS component.

References