INTRODUCTION: 
Gonadal insufficiency is a common long-term endocrinological complication of Bone Marrow Transplantation (BMT) and is mainly associated with the chemotherapy protocol. Gonadal insufficiency is reported as 66-80% in women and 35-60% in men after BMT. 

Aim: The aim of this cross-sectional study was to investigate the frequency and the factors affecting gonadal insufficiency in cases with BMT due to non-malignant indications in children or adolescence.

METHODS: 
• Between 2006 and 2016, non-malignant indications were evaluated in Pediatric Endocrinology Department after BMT.
• The effect of the primary diagnosis, age at BMT and treatment protocols used before and during BMT on gonadal insufficiency was investigated.

RESULTS: 
• 39 patients: 20 female (51.3%), 19 male (49.3%).
• Age at admission (median): 10.73 years (2.82-18.75).
• Age of BMT (median): 8.16 years (0.57-17.01).
• Gonadal insufficiency after BMT: 13 patients (33%).

CONCLUSION: 
• Within the BMT indications, non-malignant causes are increasing and treatment protocols are changing within the years.
• Gonadal insufficiency was seen at a higher rate in patients who underwent BMT due to thalassemia major.
• Older age and prepubertal stage during BMT and the combination of at least two Fludarabine, Cyclophosphamide or Busulfan regimens in pre-BMT regimens increases gonadal insufficiency risk.