

Puberty and fertility after childhood cancer: Endocrine challenges in survivors

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Abstract

Advances in childhood cancer treatment have markedly improved survival, but survivors remain at risk of late endocrine and reproductive complications. Chemotherapy, particularly alkylating agents, cranial or pelvic radiotherapy and hematopoietic stem-cell transplantation may impair the hypothalamic-pituitary-gonadal axis and directly damage the gonads. Survivors may develop precocious, delayed, or arrested puberty, hypogonadism, reduced ovarian reserve, impaired spermatogenesis, and infertility. Importantly, normal pubertal development does not always indicate preserved fertility. Early identification through treatment-exposure assessment, growth and pubertal monitoring, hormonal evaluation and appropriate fertility assessment is essential. Fertility-preservation strategies should ideally be discussed before cancer treatment and continued throughout survivorship. A structured, multidisciplinary approach can improve reproductive health and quality of life in childhood cancer. [*J Assoc Clin Endocrinol Diabetol Bangladesh*, 2026;5(Suppl 1): S13]

Keywords: Childhood cancer, Cancer survivorship, Endocrine late effects, Puberty, Hypogonadism, Fertility preservation

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