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Cryopreservation of Sperm From Adolescents and Adults With Malignancies

AXEL KAMISCHKE^{*}, HERBERT JÜRGENS[†], LOTHAR HERTLE[‡], WOLFGANG E. BERDEL[§]
AND EBERHARD NIESCHLAG^{*}

From the ^{} Institute of Reproductive Medicine, the [†] Children's Hospital, the [‡] Urologic Clinic, and the [§] Department of Medicine/Hematology and Oncology of the University, D-48129 Münster, Germany.*

Correspondence to: Dr Eberhard Nieschlag, Institute of Reproductive Medicine of the University, Domagkstr. 11, D-48129 Münster, Germany (e-mail: nieschl{at}uni-muenster.de).

Although cryopreservation of sperm is performed routinely in adults, only a small amount of information is available on its feasibility in adolescent patients with malignancies. Of 936 patients who were candidates for sperm cryopreservation, 851 (111 adolescents and 740 adults) were eligible for this retrospective analysis after excluding patients with relapses of the original or secondary cancers, known bitesticular lesions, or an unknown diagnosis. In general, patients were seen before initiation of treatment for malignancies. However, unilateral ablation of the testis was performed in 61% of patients with testicular cancer before cryopreservation of samples. Patients were grouped according to primary diagnosis and age. Measurements included testicular volume, semen analysis, and serum hormones (luteinizing hormone [LH], follicle-stimulating hormone [FSH], and testosterone). The youngest patient with an ejaculate containing sperm was 13.5 years old. No significant differences in any investigated parameter could be detected for any diagnosis among the 111 adolescents (age, <20 years). In contrast, adult patients with testicular cancer showed higher FSH values and lower sperm concentrations than adult patients with lymphomas, leukemias, and bone cancers. Patients younger than 16 years had lower ejaculate volumes than men older than 25 years, and testosterone levels were higher in patients aged 20–29 years than in the youngest patient group. Cryopreservation of sperm can be performed in adolescent patients with overall success rates (defined as the observation of at least a single motile sperm after the thawing procedure) similar to those observed in adults and should be recommended even to oncological patients younger than 15 years, provided that these patients can produce a semen sample.

Key words: Cancer, reproduction, fertility, childhood, male

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