EFFECTS OF CRYOPRESERVATION ON SEMEN QUALITY IN PATIENTS WITH SARCOMA OR CARCINOMA AS COMPARED TO DONORS

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Treatments, such as chemotherapy, for carcinoma or sarcoma in men increase survival but adversely affect reproductive potential. How cryopreservation affects semen quality in these cancer patients as compared to normal donors has yet to be established; thus, we examined the effects of cryopreservation in patients with different types of carcinoma or sarcoma as compared to donors. Semen specimens were obtained by masturbation from patients with carcinoma (n = 21) or sarcoma (n = 13) before treatment, and normal donors (n = 50) after 48 to 72 h of sexual abstinence. Liquified specimens were cryopreserved with a standard freezing procedure using TEST-yolk buffer. Prefreeze and postthaw motion characteristics were assessed with a computer-assisted semen analyzer and results verified manually. Patients were similar to donors in age, ejaculate volume, and duration of sexual abstinence. Prefreeze total motile sperm count (median and interquartile range) was significantly lower in patients with carcinoma (46.9 X 10^6; 12.7 to 84.6 X10^6) or sarcoma (58.0 X 10^6; 26.7 to 72.9 X 10^6) as compared to donors (129.6 X 10^6; 61.5 to 240 X10^6; P = 0.001); postthaw TMS count was significantly lower in the carcinoma group (17.3 X 10^6; 5.2 to 33.9 X 10^6) compared to donors (59.1 X10^6; 23 to 90.8 X10^6; P = 0.002). Similarly, postthaw percent motility and linearity were significantly lower in patients with carcinoma as compared to donors (P <0.05). Postthaw, these characteristics did not differ between patients with sarcoma and donors. In conclusion, patients with carcinoma have poorer prefreeze semen quality than donors. Cryopreservation similarly affects sperm quality in patients with carcinoma or sarcoma compared to normal donors. Overall, postthaw semen quality is better in patients with sarcoma than carcinoma. Semen should be cryopreserved before treatment for sarcoma or carcinoma. Patients with sarcoma can possibly achieve pregnancy with simpler assisted reproductive technique (eg, intrauterine insemination) because they have better postthaw semen quality.