Datos del Resumen Nº ***103***

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Datos de la Comunicación

Tema: *1. Andrología*

Title of the communication:

HOME SPERM FREEZING CARRIED OUT BY THE PATIENT DOES NOT DECREASE SURVIVAL RATE POST CRYOPRESERVATION

Introduction:

There are a number of reasons why sperm freezing is indicated for reproductive purpose. Oncologic patients to preserve their fertility, patients who will undergo a vasectomy, patients with sexual dysfunctions that have difficulties to obtain a sperm sample or patients that cannot be present on the in vitro fertilization date.

The freezing protocols defined by cryoprotective media companies, followed rigorously by biologists, are so simple that they could surely be performed by inexperienced people obtaining similar results. We have designed a simplified sperm freezing protocol to be performed by the patients themselves.

Goals:

The main objective of this study is to assess whether there are differences in the percentage of sperm progressive mobility recovered after cryopreservation performed by biologists in the laboratory and that performed by inexperienced hands with a new adapted freezing protocol. Secondary objectives are comparing morphology, vitality, DNA fragmentation and bacterial growth in the samples of both groups.

Material and Methods:

Prospective study of sperm samples from 41 volunteers. Samples are obtained using the instructions provided for this purpose in the Laboratory Manual for Human Semen Examination and Processing (WHO-2010).

In the laboratory, the volume is measured, an initial count and assessment of the sample mobility is performed and a 0.5 ml aliquot is separated. Following this, the rest is then given to the male along with written instructions to perform the freezing process. The new freezing method is to slowly add an always-fixed amount of 2 ml of cryoprotector to the sample, not volume dependent, leaving it to incubate at room temperature. The sample is then transferred to vials and immersed in liquid nitrogen vapours below -160ºC overnight. In both groups, samples frozen by biologists and samples frozen by volunteers, the cryoprotective medium used is Irvine Yolk Buffer Test and the incubation time is 10 minutes. The temperature drop ramp in the biologists freezing group in the lab is of 30 minutes. The vials are then immersed directly in liquid nitrogen in both groups. In the post-thawing test in both groups, concentration and motility sperm counting is performed with a Makler camera and phase contrast microscope.

In 11 samples, rapid staining is performed with Merck's Hemacolor kit and assessment of the morphology according to strict Kruger criteria and vitality that is evaluated by eosin-nigrosin staining procedure. DNA fragmentation test by TUNEL and flow cytometry was performed in 9 samples. In thawed samples from both groups after 24 hours of incubation, the presence of bacteria is evaluated. The Wilcoxon statistic is used to observe differences between groups.

Results:

No significant differences are observed between groups in the percentage of progressive motility recovered after cryopreservation; control 45.99 (2.2-119.9) vs. test 44.52 (18.21-90.99). There are also no differences in morphology or vitality. The rate of DNA fragmentation was lower in the volunteer group, but without statistical significance. No bacterial growth was observed in any sample.

Findings:

Slow ramp temperature drop sperm freezing protocols are easy to follow in Andrology laboratories. Even people without prior training are able to follow them outside the lab obtaining the same results. This new designed protocol is valid for patients to freeze their own sperm at home