

## **HUMAN OOCYTES ULTRA-VITRIFICATION WITH A LOW CONCENTRATION OF CRYOPROTECTANTS BY ULTRA-FAST COOLING. A NEW PROTOCOL**

**E. Criado Scholz**<sup>1</sup>, P.V. Novara<sup>2</sup>

<sup>1</sup> CERAM, Marbella, Spain

<sup>2</sup> Department of Gynecology and Reproductive Medicine, IRCCS Istituto Clinico Humanitas, Spain

Objective: To evaluate the efficacy of a new ultra-vitrification technique with low concentration of cryoprotectants.

Design: Ultra-vitrification research.

Setting: Private assisted reproduction center

Patients: All the oocytes have been donated voluntarily with the aim of research.

Interventions: 100 mature oocytes and 100 immature oocytes divided in four groups have been ultra-vitrified with different protocols in order to determine which are the adequate cryoprotectants concentration and the appropriate cooling solution to have a higher survival rate in human oocytes.

Main Outcome Measure: Human oocytes survival rate with low concentration of cryoprotectants by ultra-vitrification technique.

Results: We obtained higher survival rate with slush nitrogen than with liquid nitrogen (92% Vs 56%) and better results with 2M of cryoprotectants than with 1.5M (92% Vs 60%). The best protocol was 2M PrOH + 0.5M sucrose + slush nitrogen with a mature oocytes survival rate of 92% (23/25) and immature of 88.0% (22/25).

Conclusions: This ultra-vitrification technique is a new option to preserve human oocytes avoiding use of high cryoprotectants concentration and obtaining a high survival rate with a concentration of cryoprotectants typical of slow freezing.