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# HUMAN EMBRYO CRYOPRESERVATION: MISSING THE FEAR

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## ✓ Introduction:

- ➔ Embryo cryopreservation is now a routine procedure in assisted reproductive laboratories. Currently, it is more important than ever for the cumulative pregnancy rate after In vitro Fertilization.
- ➔ Recently, increases in success rates after frozen-thawed embryo transfer are nearing the success rates of fresh embryo transfer and this can encourage the use because it reduces risks like low birth weight and prematurity, ovarian hyperstimulation syndrome, among others.
- ➔ Furthermore, the controlled ovarian hyperstimulation affects the endometrial maturation.

## ✓ Objective:

- ➔ To evaluate ongoing pregnancy rates after FET cycles and compare with the success of ET described at the literature

## ✓ **Materials and Methods**

- ➔ A retrospective study of 72 patients under IVF treatment that where indicated cryopreserved all embryos because of ovarian hyperstimulation syndrome risks.
- ➔ The patients parameters evaluated was age, infertility factor, number of retrieved and mature oocytes, fertilization rate, embryos transferred per patient, pregnancy, implantation and abortion rate.

# ✓ Cryopreservation Methods: SLOW-FREEZING

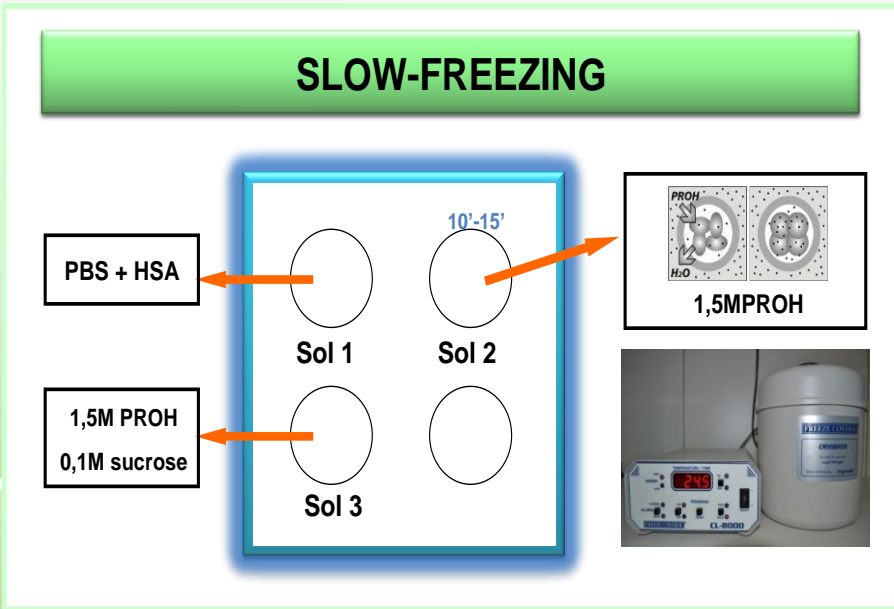


Figure 1: Step by step to embryo cryopreservation using slow-freezing method. Solutions and machine.

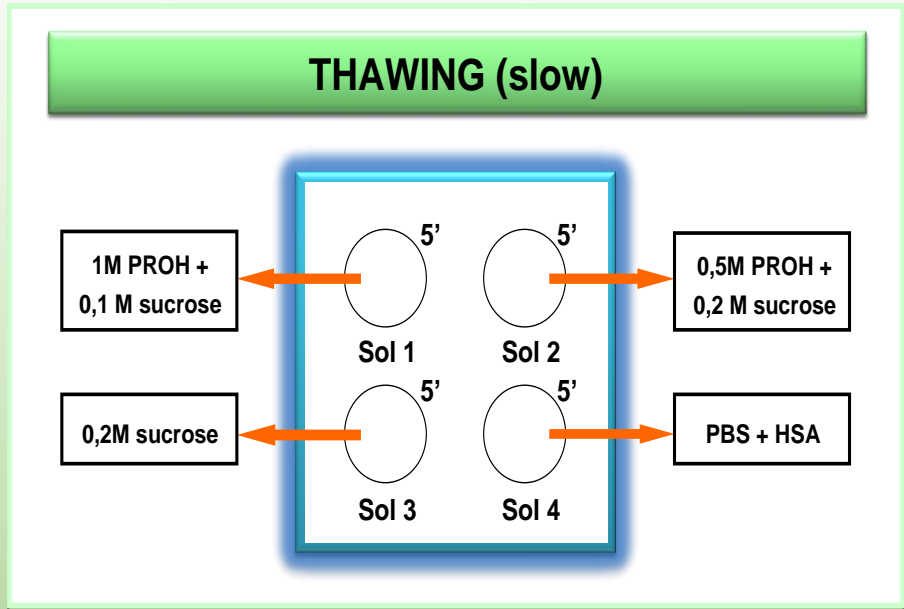


Figure 2: Step by step to embryo thawing using slow-freezing method.

# ✓ Cryopreservation Methods: VITRIFICATION

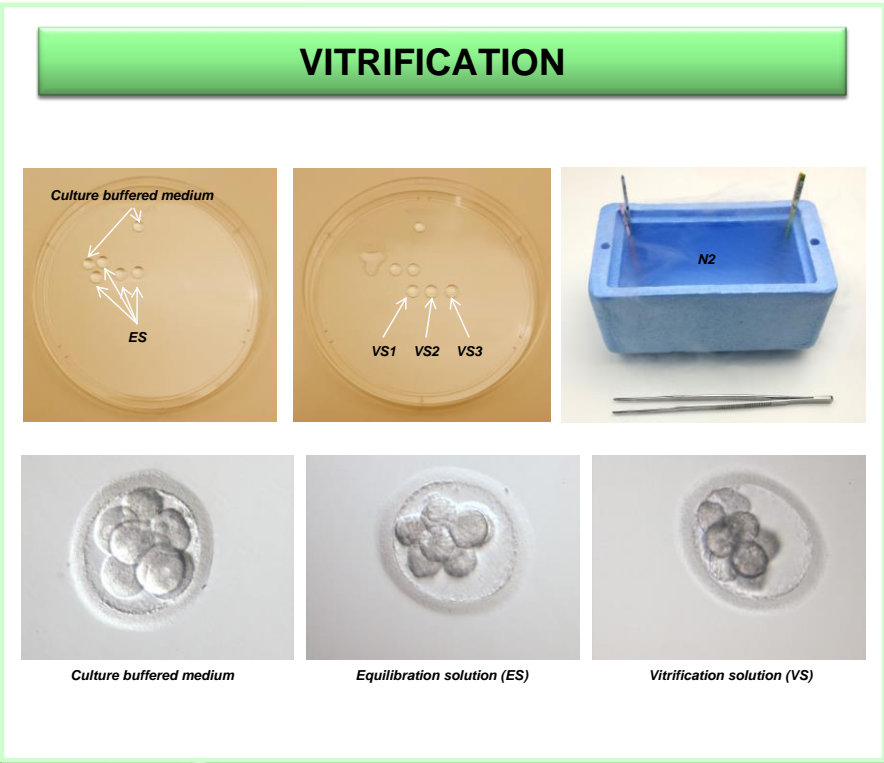


Figure 3: Step by step to embryo cryopreservation using vitrification method.

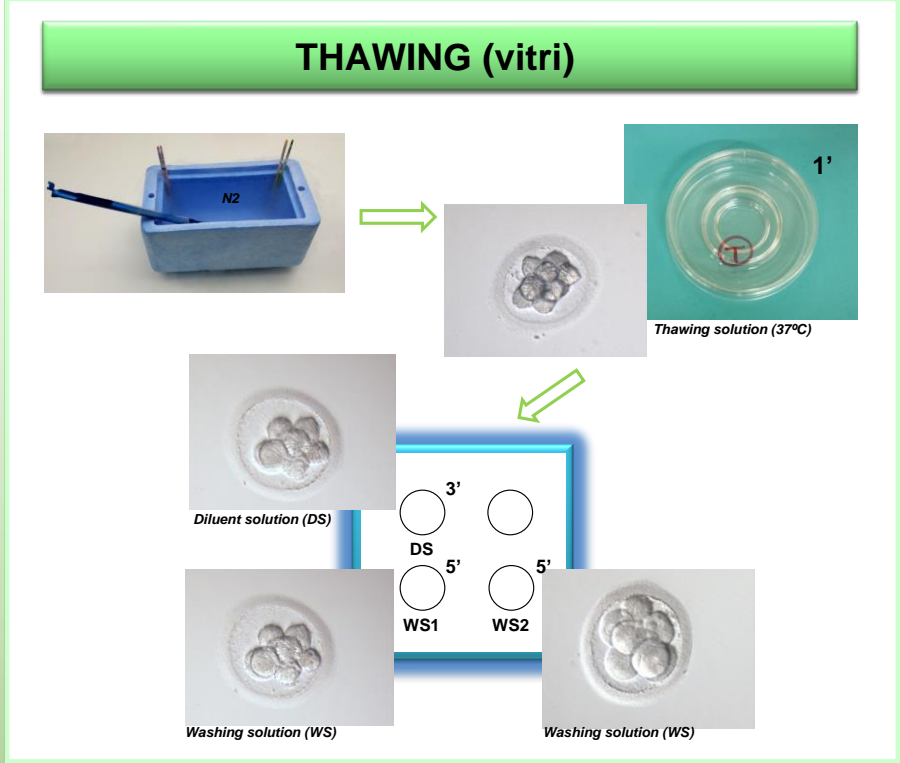


Figure 4: Step by step to embryo thawing using vitrification method.

## ✓ RESULTS:

- ➔ The average age was 30.5 years;
- ➔ Male factor was indicated in 42% of cases.
- ➔ The number of aspirated oocytes per patient was 28,11 which 74,35% were mature.
- ➔ The fertilization rate was 80,53%,
- ➔ the average of embryos transferred was 2,78 per transfer, the average number of transfer per patient was 1,8.
- ➔ The pregnancy rate per transfer was 49.59% and per patient was 83.3%.
- ➔ The implantation rate was 35.7%.
- ➔ Abortion rate was 13.89%.

## ✓ Conclusions

- ➔ Until now, there is no consensus between different groups around the world about the best protocol, day of embryo cryopreservation, freezing method, selection criteria for which embryos to freeze, method of embryo thawing and endometrial preparation for transfer of frozen-thawed embryos.
- ➔ However, it has been reported a greater implantation and pregnancy rates with FET when compared with ET, suggesting superior endometrial receptivity in the absence of ovarian stimulation.
- ➔ Ours results agrees with recently reported data and emphasizing that we can use frozen embryos without fear.
- ➔ High-quality randomized controlled trials should be pursued to find out which cryopreservation protocol is the best and when will be the time to completely abandon fresh embryos transfer.



## ✓ References

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3. Shapiro B.S., et al., *Clinical rationale for cryopreservation of entire embryo cohorts in lieu of fresh transfer*. *Fertil Steril*, 2014. **102**(1): p. 3-9.



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**Thank you!!!**

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