Informed Consent Form for the use of the EmbryORP supplement for culture media, vitrification and/or Devitrification Media to Reduce oxidative stress at In Vitro Treatments

Impact of Repeated Antioxidant Supplementation of Embryo Culture Media on Blastocyst Utilization and Expansion Rate Under Two Different O2 Concentrations

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October 31st, 2021

NEC#_____

EmbryORP®

CITMER
Medicina Reproductiva

INFORMED CONSENT FOR THE USE OF THE EMBRYORP SUPPLEMENT FOR CULTURE MEDIA, VITRIFICATION AND/OR DEVITRIFICATION MEDIA TO REDUCE OXIDATIVE STRESS IN IN VITRO TREATMENTS

We, the undersigned to this consent and now called patients, identify ourselves as: I Mr(s). _____,of_____ years old with INE, Identificación Number or Pasaport_____and home adress at _____;
Mr(s)._____, of_____years old with INE, Identificación Number or Pasaport_____and home adress at :_____.
Being of legal age in full use of our faculties and rights, we declare under oath to tell the truth accepting responsibility for our statements, which we have received from Dr. (a):_____, with Profesional IDNo: _____the broad explanation about the assisted reproduction technique to be performed, as well as the fact that the execution of the procedure is scientifically and clinically indicated.

This informed consent is an informative document where CITMER invites you to participate in a scientific research project, said research protocol is designed and endorsed by our Scientific Committee. We inform you that by accepting and signing the guidelines established in this informed consent, you allow the information collected during said study to be used by the project investigator(s) in the preparation of analysis and communication of these results in the scientific field. This informed consent consists of the following sections:

1) General Information of the Project

The respiration process in cells for the production of energy is an indispensable process that cells need in order to live. However, during this process free radicals are created that are naturally neutralized by natural antioxidant mediators. Free radicals are highly reactive molecules that have unpaired electrons, which can cause damage to cells and tissues around them, generating oxidative stress. Oxidative stress is one of the major causes of infertility, since it considerably affects sperm functional integrity such as a decrease in sperm concentration and motility, it can also affect its structure, including fragmentation and damage to the genetic information of the sperm, which leads to the decrease in the fertilization rate of the egg, embryo implantation, causes a deficit in embryonic development, increases the possibility of abortion and genetic defects of the baby (Villar et al, 2017).

Recent scientific findings (Gardner et al., 2016) (Maldonado et al, 2018) show that a combination of antioxidants in culture media has a highly beneficial effect on embryo development in vitro and on subsequent post-transfer fetal development. (Gardner et al, 2016). These data indicate a potential role for the inclusion of specific antioxidant combinations in human embryo culture media; as the culture medium designed and supplemented in our laboratory called EmbryORP which has a specific combination of antioxidants, with which the oxidative stress is reduced in the embryonic culture to carry out said study. Noting that similar studies in animal and human models have increased the rate of usable embryos, either for transfer to the mother or for cryopreservation.

2) Project Objectives:

- Demonstrate that the use of the embryo culture supplement "EmbryORP" cultivates embryos under less oxidative stress, and increases the rate of formation of usable blastocysts in patients with low ovarian reserve and/or in elderly patients, either for their transfer or for vitrification and devitrification and that their effects could be reflected in obtaining more embryos in the blastocyst stage with good morphological quality, live birth rate, RNV weight, Apgard score (appearance, pulse, gestures, activity, breathing) in the babies of patients undergoing IVF/ICSI assisted reproductive techniques.

Signature of the Patient

Name and Signature of the Attending Physician

Signature of the Patient

C) Project Details:

I. **Procedures and maneuvers that will be performed on the people in this study.**
The procedures and maneuvers that will be carried out will only be the addition of the EmbryORP supplement in the culture medium and vitrification and devitrification medium used for the culture, cryopreservation and devitrification of the embryos, reducing oxidative stress in said media where the embryos are exposed. embryos.

II. **Risks and inconveniences of participating in this study as well as the inconvenience that could be generated.**
There is no known risk or inconvenience in couples who decide to participate in this study, since it has previously been reported (Maldonado et al, 2018) a favorable modulation of the oxidation-reduction state with the use of antioxidants as a supplement in the culture medium.

III. **Rights, responsibilities and benefits as a participant in that study.**
Patients may reserve the right not to participate in this study, as well as the responsibility of requesting non-participation before performing the follicular puncture.

IV. **No Compensation.**
It is indicated that there is no compensation or retribution for participating in the research, finally the benefit for the participating couples will be reflected in the increase in the possibility of having their baby at home.

V. **Ethics Committee**
This research project has been approved by a Research Ethics Committee.

VI. **Confidentiality and information management.**
It is guaranteed that your data may not be seen or used by other people outside the study or for purposes other than those established in this document.

VII. **Voluntary withdrawal from participating in the study.**
Voluntary withdrawal from participation in the study can be made without this decision affecting the care you receive at CITMER, so you will not lose any benefit as a patient. (The last date for voluntary withdrawal must be just before the ovarian puncture and must be done in writing.

D) Project Consent:

Once I have read and understood the above, I am informed of the following: The indication, procedure, chances of success, risks and complications of the proposed treatment. That the culture as well as the vitrification and devitrification of my embryos in a state of less oxidative stress can be canceled by the doctor at any time during its completion, either for medical reasons or at the request of the interested party. The economic cost of in vitro treatment. The total availability of the medical, scientific and health personnel of this center to expand any aspect of the information that has not been sufficiently clarified.

E) Authorization:

We authorize the staff of the Center for Technological Innovation and Reproductive Medicine to use the supplement for culture medium and **EmbryORP vitrification and devitrification media in my assisted reproduction cycle to reduce oxidative stress during the in vitro process and seek the formation of more embryos in blastocyst stage** as well as a better viability in post devitrification survival that is carried out within this in vitro fertilization attempt.

In_____on the day_____of_____of the year _____.

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Name and Signature of
the Patient.

Name and Signature of the Patient	Name and Signature of the Attending Physician