

Press release

A study carried out by Institut Marquès and presented at the Congress of the European Society of Human Reproduction and Embryology (ESHRE) changes the criteria for embryo evaluation

Embryos have the capacity to self-repair from the second day of life

Barcelona, 21st of June, 2019

There are embryos that, in their second or third day of life [absorb some of their own cells](#). To date, this fact was considered abnormal, but a study carried out by [Institut Marquès](#), international reference centre in assisted reproduction proves that, in this way, nature gets to self-repair.

This discovery has been possible thanks to [Embryoscope](#), an embryo incubator that has a video camera attached that films the development of the embryos. In IVF treatments, embryos are classified according to guidelines based on their appearance and the way they develop. In this way, the ones that are considered with a better prognosis to implant and continue evolving are transferred to the patient.

Nowadays, it is considered optimal for an embryo to have four cells on the second day of life and eight cells on the third one. There are embryos that, suddenly, on the second or third day make one of their cells disappear, from the current four to three and, afterwards, they keep dividing as if nothing had happened. “To date this phenomenon, known as reverse cleavage, was considered a sign of bad prognosis and, because of this, the evaluation of the embryo was considerably reduced”, states Sergi Novo, biologist at Institut Marquès.

With the currently established rules, embryos that do not follow the guidelines are considered to have less chances of developing. In this sense, Institut Marquès is reassessing such guidelines and showing that many of the standard criteria are wrong.

23.340 analysed embryos

The study, developed at Institut Marquès and presented at the Congress of the European Society of Human Reproduction and Embryology (ESHRE), has proved that those embryos that have reabsorbed their cells and, after that, keep on dividing until they reach the blastocyst stage (the early stage of embryo

development, that happens between the 5th and 6th day after fertilisation) have the same implantation, evolutive pregnancy and healthy born child rates.

“Finding out that the human being, in its second or third day of life is already capable to determine that one of its cells has been altered and that it has the potential to remove it and keep growing in a healthy way is an amazing thing”, explains Dr Marisa López-Teijón, Manager of Institut Marquès. “This proves that life doesn’t consist in being born perfect, but in being able to correct one’s defects. Not only those which seem perfect manage to live, but also those who have fought to be perfect”, adds the gynaecologist.

For this reason, Institut Marquès has carried out a retrospective study of the development video of **23340** embryos, from their fertilisation to the moment they reach the blastocyst stage. In **303** of the studied embryos, the presence of complete absorption of one of its cells was observed. These embryos show a slight decrease of the proportion that reaches the blastocyst stage, but the rate of born babies remains, a fact that suggests that the earlier detection of errors by the cells would be implied in this *absorption*. The embryos that are able to overcome this repair activity have the same reproductive potential.

A discovery about the beginning of life

As well as there are no two people who are physically identical, with the exception of identical twins, there are no two equal embryos. The number of possible genetic combinations is infinite. Because of this, from the moment of fertilisation we all have our own unique features that make us unique from that precise moment.

This happens in all embryos, not only in the ones conceived by IVF. “Every embryo works as a cell team controlled by a leader, with the purpose of living. If some cells start dividing in an abnormal way and are not able to be controlled, the bad ones will win and the embryo will not be able to develop. It is amazing to see how, from the beginning of life, human beings are able to remove their weaknesses in order to follow the correct criteria and get moving forward in life”, states Dr López- Teijón.

About Institut Marquès

Institut Marquès is a Barcelona based centre of international standing in Gynaecology, Obstetrics and Assisted Reproduction with branches in Barcelona, London, Ireland (Dublin and Clane), Italy (Rome and Milan) and Kuwait.

In Italy, thanks to its centre in Milan and to the collaboration with the clinic Villa Salaria in Rome, Institut Marquès offers a comprehensive solution to people with sterility problems.

The centre, with a wealth of experience in particularly difficult cases, helps people in more than 50 countries achieve their dream of parenthood. Institut Marquès offers the highest pregnancy success rates, with 89% per cycle in IVF with egg donation.

Leader in innovation, it conducts an important line of research on the benefits of music in the early stages of life and foetal stimulation.

Links of interest:

<https://institutomarques.com/en/>

<https://institutomarques.com/en/assisted-reproduction/special-techniques/embryoscope/>

<http://www.fertility-experiences.com/>

https://www.youtube.com/watch?v=vq8ki_UA2-E&feature=youtu.be

<https://iwanttogetpregnantnow.com/>

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