PRESS RELEASE

Anecova's *In vivo* culture system improves embryo quality in clinical study

March 10, 2009 - A new study to be published in an upcoming issue of the prestigious medical journal *Human Reproduction* [1] shows that Anecova's *in vivo* embryo culture system significantly improves the number of good quality embryos produced in the context of Assisted Reproductive Technology (ART). Embryo quality is widely recognized as a factor directly influencing the ultimate success rate of ART.

"These preliminary results are very encouraging," commented, in a joint statement, the 3 authors of the study: Dr Christophe Blockeel (CRG, UZ Brussel), Dr Pascal Mock (Inventor of this novel concept, IVF Specialist, Geneva) and Dr Greta Verheyen (CRG, UZ Brussel). "Not only this procedure appears to be feasible and safe, but it also led to improvements in terms of embryo quality".

"If confirmed by larger studies which are currently ongoing in several European Centers, this system could initiate a paradigm shift in the entire field of Reproductive Medicine" added Dr Carlos Simon (IVI Valencia), Chairman of the Scientific Advisory Board for Anecova.

Currently, the *in vitro* Fertilisations (IVF) procedure involves retrieving eggs from the ovaries and fertilising them *in vitro*, followed by a culture period in the IVF laboratory for 2-5 days. One or more embryos, selected on the basis of their morphological quality, are afterwards transferred in the maternal womb for the completion of gestation. As nearly one in ten couples, or more than 70 million people throughout the world, are affected by fertility issues, improving assisted reproductive technology is a major challenge.

The study reports that eggs collected from 13 patients undergoing IVF treatment were randomly assigned to either *in vivo* or conventional *in vitro* culture. In the *in vivo* arm, fertilization and embryo development led to improved embryo quality with a significantly higher proportion of normal embryos than in the conventional *in vitro* culture. Three healthy children were born; two with an embryo from the *in vivo* arm, and one with an embryo from the *in vitro* arm.

A major advantage of the leading-edge technique developed by the Swiss biotech company Anecova, within a partnership with the Ecole Polytechnique Fédérale de Lausanne (EPFL) is that it constitutes a return to a procedure which is much closer to the natural process. Anecova's system involves the introduction

of microinjected human eggs into a retrievable and permeable capsule which allows optimal exchange between the uterine maternal environment and the developing embryo.

Thus, fertilization and embryonic development take place *in vivo* (within the *in vivo* culture system in the future mother's uterus) rather than *in vitro* (in a test tube in a laboratory). The early stage embryos start their life in close communication with the maternal environment, recreating the two-way exchange of fluids and factors found in the natural development of embryos, improving the overall quality of the embryos.

“Anecova will strive to improve the overall quality of care in ART by enabling the use of more physiologic and natural medical solutions for couples with conception difficulties”, said Martin Velasco, Chairman of the Board at Anecova and CEO.

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[1] An *in vivo* culture system for human embryos using an encapsulation technology: a pilot study. *Human Reproduction*. Published online on March 10 under advance access. doi:10.1093/humrep/dep005.

About the Brussels’ Centre for Reproductive Medicine (www.brusselsivf.be)
The 'Centrum voor Reproductieve Geneeskunde' (CRG) from the Universitair Ziekenhuis Brussel (UZ Brussel, Belgium) is a specialized centre in Reproductive Health. Since 1983 it has led groundbreaking work in the development of assisted reproductive techniques and novel clinical practices.

About IVI (www.ivi.es)
The Instituto Valenciano de Infertilidad (IVI) came into being in 1990 as the first medical institution in Spain wholly specialized in human reproduction. IVI is at the forefront of Reproductive Medicine, and has opened several centers in Spain, Europe and South America.

About EPFL (Ecole Polytechnique Fédérale de Lausanne) (www.epfl.ch)
EPFL is one of Switzerland’s two Federal Institutes of Technology. It offers complete study courses in Engineering, Basic Sciences, Architecture, Life science and Management. In addition to excellence in education and research, EPFL has a strong commitment to technology transfer and the Science Park on campus is home to more than 100 enterprises and numerous investors.

With its three missions – education, research and technology transfer at the highest international level – EPFL stimulates collaboration between students, professors, researchers and entrepreneurs.

About Human Reproduction journal (www.eshre.com)
Human Reproduction is a monthly journal of the European Society of Human Reproduction and Embryology (ESHRE), and is published by Oxford Journals, a division of Oxford University Press.
Please acknowledge *Human Reproduction* as a source in any articles.

About Anecova (www.anecova.com)
Anecova was created in 2004 by Martin Velasco and Dr Pascal Mock. Anecova is working with world leading scientists and clinicians in the area of ART with the objective of developing more natural approaches. The company is ISO certified (9001 and 13485), obtained the European Certification (CE Mark) in 2007 for the Anecova-d1 device and expects to start commercialization in Europe by the first half of 2010. Anecova was granted the Technology Pioneer award in 2008 at the World Economic Forum.

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