

Reducing the risk of ovarian hyper-stimulation syndrome and improving oocyte maturation in IVF

Published date: Feb. 1, 2018

Technology description

Market Need:

A significant proportion of children in western and developing countries are now born using assisted reproduction technologies, including through in vitro fertilization (IVF). The IVF process typically involves:

- hormonally stimulating the ovaries of women to produce multiple growing follicles
 - collecting the ova from these pre-ovulatory follicles and maturing them in vitro
 - fertilizing ova with sperm and culturing for a period of time to monitor early development in vitro;
- and

introducing the resultant embryo back into the uterus

Large doses of Gonadotropin, a follicle-stimulating hormone, or other ovarian follicle stimulating agents used in standard IVF procedures, can lead to a condition of ovarian hyper-stimulation syndrome (OHSS). Some reports indicate OHSS occurs in up to 35% of women undertaking ovary stimulation treatment as part of their IVF cycles, with women suffering from polycystic ovary syndrome at much higher risk. OHSS provides added discomfort and stress to the patient, and in some severe instances of OHSS, urgent medical attention is required. When severe, the condition can be potentially life threatening requiring hospitalization, intravenous fluids, pain relief, and other medication.

The Technology:

Granulocyte-macrophage colony-stimulating factor (GM-CSF) is a cytokine which is naturally occurring in the female reproductive tract. Previous studies led by University of Adelaide researchers found that the addition of GM-CSF to culture media supports in vitro embryo development. This led to the development of Origio's culture media products, EmbryoGen and BlastGen, which are approved for commercial use in human IVF.

Advantages

The proposed invention will remove the need for hormonal-induced ovary stimulation IVF patients, significantly reducing the cost of treatment, and risk of OHSS.

Institution

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