

SYMPOSIUM ASSISTED FERTILIZATION IN ELDERLY WOMEN

1. Obstetrician-gynecologist, Senior Professor, School of Medicine, Universidad Peruana Cayetano Heredia. Past President Peruvian Society of Obstetrics and Gynecology. ORCID: 0000-0001-5008-3172

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Corresponding author:

Dr. Adolfo F. Rechkemmer

✉ adolfo.rechkemmer@upch.pe

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Assisted fertilization in women of advanced reproductive age: Quo vadis? Fertilización asistida en mujeres de edad reproductiva avanzada, ¿quo vadis?

Adolfo F. Rechkemmer¹

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ABSTRACT

Oocyte and embryo donation has become a frequent procedure in infertile women of advanced reproductive age, with a high pregnancy rate. In these pregnancies, the incidence of adverse obstetric events (hypertensive disorders, gestational diabetes, operative delivery, among others) and perinatal mortality increases. Multiple pregnancies significantly increase the risks, so single embryo transfer is recommended. Patients should have a previous comprehensive medical examination including cardiovascular and psychological evaluation, avoiding treatment in women with chronic diseases that significantly increase risks. This symposium will review infertility management in women of advanced reproductive age with own and donated oocytes, obstetric and perinatal complications as well as ethical aspects and special considerations to consider in this type of treatment.

Key words: Reproductive Technique, assisted, Materna age, advanced, Oocyte, donation

RESUMEN

La donación de ovocitos y embriones se ha convertido en un procedimiento frecuente en mujeres infértiles en edad reproductiva avanzada, con una elevada tasa de embarazo. En estos embarazos aumenta la incidencia de eventos obstétricos adversos, como trastornos hipertensivos, diabetes gestacional, parto operatorio, entre otros, y mortalidad perinatal. Los embarazos múltiples aumentan significativamente los riesgos, por lo que se recomienda la transferencia de un solo embrión. Las pacientes deben someterse inicialmente a un examen médico integral que incluya evaluación cardiovascular y psicológica, evitando el tratamiento en mujeres con enfermedades crónicas que aumentan significativamente los riesgos. En este simposio se revisará el manejo de la infertilidad en mujeres en edad reproductiva avanzada con ovocitos propios y donados, las complicaciones obstétricas y perinatales, así como los aspectos éticos y las consideraciones especiales para tener en cuenta en este tipo de tratamientos.

Palabras clave. Técnicas de reproducción asistida, Edad materna avanzada, Ovocitos, donación

DEVELOPMENT OF THE SUBJECT MATTER

Assisted reproductive techniques have revolutionized the treatment of infertile couples and allow women to have children late in life. There is a continuous increase in the average age of pregnant women. In the United States, almost 19% of all pregnancies occur in women 35 years of age or older⁽¹⁾. In Latin America, the age of women undergoing assisted fertilization treatment continues to increase. Of the 87,732 treatment cycles performed in 2020, 34% were in women aged 40 years or older; in 2014, this percentage was 27%. It is important to emphasize that more than 75% of treatments are performed on women 35 years or older⁽²⁾.

Assisted fertilization treatment with donated oocytes or embryos is a treatment indicated for cases of low ovarian reserve, usually related to advanced reproductive age. These treatments are associated with a high pregnancy rate. Age is no longer an obstacle to achieving pregnancy nor is the absence of ovarian function or even the absence of ovaries, as long as the uterus is in good condition. However, in women of advanced reproductive age (over 45 years) obstetric complications increase, particularly those related to cesarean sections, gestational diabetes, hypertensive disorders, and perinatal mortality⁽³⁻⁵⁾.



A French study compared obstetric and neonatal outcomes in women undergoing treatment with donated ova between women over 50 years of age and women between 45-49 years. Preeclampsia was found in 19% and 15%, respectively, and gestational diabetes in 23% and 12%, respectively. In the case of multiple pregnancies, these complications increased significantly⁽⁶⁾. In another study, Avnon et al⁽⁷⁾ compared the effect of pregnancy in women aged 45 years or more on maternal and neonatal outcome, in double and singleton pregnancies; hypertensive complications in double pregnancies were 41% and in singleton pregnancies 14%, delivery before 34 weeks in 23% vs. 2%, respectively. Likewise, 36% and 8% of neonates were attended in intensive care, respectively. Therefore, single embryo transfer is recommended in women of advanced reproductive age.

In vitro fertilization treatment with fresh eggs in women 45 years or older is associated with a low pregnancy rate. In a retrospective cohort study of more than a thousand IVF cycles with fresh oocytes, a live birth rate of 3.4% was found, with 20 of the 21 pregnancies in women aged 45 years, and only one live birth in a woman aged 46 years⁽⁸⁾. In Latin America, a live birth rate by embryo transfer of 9.7% was found in women 40 years of age or older in in vitro fertilization⁽²⁾. The prognosis worsens if FSH levels are elevated⁽⁹⁾.

All patients have the right to freely choose how to achieve pregnancy after obtaining all the information regarding the increased risk of complications during treatment and pregnancy. The patient must first undergo a complete medical evaluation including metabolic, cardiovascular, and psychosocial aspects⁽¹⁰⁾. It is considered ethically permissible for fertility centers to decline to treat women of advanced reproductive age if they consider the risks of having underlying diseases to be too high.

The Ethics Committee of the American Society for Reproductive Medicine published the arguments for and against oocyte and embryo donation in women of advanced reproductive age⁽¹¹⁾. The arguments in favor are based on medical efficacy and safety, social practices, gender equality, and reproductive freedom. The live birth rate per embryo transfer in cases of oocyte donation is above 50%⁽¹²⁾. Arguments against are based on reasoning regarding natural limits to reproduction, concerns about child rearing, longevity, and biological risks. Wang et al⁽¹³⁾ compared the evolution of pregnancies in wo-

men aged 45 years or older between pregnancies obtained with assisted fertilization treatments and those obtained spontaneously; the first group had a higher risk of cesarean section (75% vs. 49.7%) and a higher risk of retained placenta (2.7% vs. 0%).

There is a legitimate debate about what are the appropriate limits in the use of assisted reproductive techniques beyond the physiological and natural reproductive cycle. With respect to the age limit for having offspring, the debate centers primarily on women: at what age is too old?⁽¹⁴⁻¹⁶⁾ This symposium will discuss this, and other aspects related to assisted fertilization in older women. We will review the indications and results in treatment with the patient's own eggs, as well as the protocols and results in treatment with ovidonation. Likewise, there will be an update on obstetric and perinatal complications in pregnancy in older women. Finally, the ethical and controversial aspects of this type of treatment will be reviewed, showing the suggestions of internationally recognized institutions, such as the ESHRE (European Society of Human Reproduction and Embryology) and ASRM (American Society for Reproductive Medicine).

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