



Preimplantation genetic diagnosis (PGD) in women with advanced maternal age: A literature review

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Abstract

Aim: Pre-implantation genetic diagnosis (PGD) in women at advanced maternal age (AMA) is a test of genetic status performed on the genetic material obtained from a biopsy of the oocyte or embryo of women who are at risk of aneuploidy associated with their AMA.

Method: This process is performed in conjunction with in vitro fertilisation (IVF) whereby, after ovulation induction, the embryo is biopsied. The biopsy technique can be performed at three different stages, on oocytes or zygotes (polar body biopsy), on 6–10-cellembryos (cleavage stage biopsy), or on blastocysts (blastocyst biopsy). Regardless of the procedure chosen, a biopsy involves two steps: zonapellucida drilling, which can be performed mechanically, chemically, or by laser energy, and cell removal for analysis of the genetic material to transfer only healthy euploid embryos.

Results: However, misdiagnosis remains an issue and these women as well as their partners and family need to be counselled.

Conclusions: This article reviews PGD in women with AMA, with its positive and negative forecast as well as the ongoing debates concerning associated ethical issues.

Keywords: Aneuploidy, Embryo, Maternal age, Preimplantation genetic diagnosis, Zona pellucida.

Biography

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