

Effect of infertility, maternal age, and number of previous miscarriages on the outcome of preimplantation genetic diagnosis for idiopathic recurrent pregnancy loss

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Objective: To determine whether preimplantation genetic diagnosis (PGD) would decrease spontaneous abortion rates in patients with idiopathic recurrent pregnancy loss (RPL).

Design: Controlled clinical study.

Setting: IVF center and PGD reference laboratory.

Patient(s): Patients with RPL with no known etiology.

Intervention(s): Preimplantation genetic diagnosis by fluorescence in situ hybridization analyzing nine chromosomes.

Main Outcome Measure(s): The spontaneous abortion rate was compared to patients' own expectations. Patients were evaluated according to the number of previous losses, fertility, and maternal age.

Result(s): Preimplantation genetic diagnosis significantly reduced spontaneous abortions in patients with RPL, especially for patients with more than two previous losses (12.8% vs. 35.9% expected). The PGD significantly reduced the rate of spontaneous abortion in both fertile (15.2% vs. 33.8% expected) and infertile patients (13.0% vs. 29.5%), which also achieved similar delivery rates (37% and 34%, respectively). The beneficial effect of PGD was less pronounced in patients <35 years than in patients ≥35 years old (13.6% vs. 34.0% expected). Overall, the PGD reduced the miscarriage rate to a similar baseline of 14%–16% across all maternal ages.

Conclusion(s): Preimplantation genetic diagnosis improves pregnancy outcome for women with idiopathic RPL, especially those with more than two previous losses, and >35 years of age, and that benefit is not affected by fertility status. (Fertil Steril® 2008; ■: ■–■. ©2008 by American Society for Reproductive Medicine.)

Key Words: FISH, PGD, recurrent miscarriage, idiopathic RPL, infertility