

# PGD Aids Women With Past Miscarriages

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WASHINGTON — Preimplantation genetic diagnosis before in vitro fertilization reduced the rate of pregnancy loss for couples with a history of miscarriage after natural conception, and especially for couples with three to five prior miscarriages, according to findings presented at the annual meeting of the American Society for Reproductive Medicine.

"Half of the miscarriages in recurrent pregnancy loss patients are due to aneuploidy," said John Garrisi, Ph.D., laboratory director of the Institute for Reproductive Medicine and Science at Saint Barnabas in Livingston, N.J.

Previous studies have revealed a higher rate of chromosomal abnormalities in the embryos of patients with recurrent pregnancy losses, compared with age-matched controls, he added.

The effects of both aneuploidy and preimplantation genetic diagnosis (PGD) on pregnancy loss remain controversial.

**Prior studies have shown higher rates of chromosomal abnormalities in the embryos of patients with recurrent pregnancy losses than in controls.**

"In any case, we want to reduce the miscarriage rates," Dr. Garrisi said.

To determine the effectiveness of PGD for reducing pregnancy loss in couples with a history of such losses, Dr. Garrisi and colleagues reviewed data

from 135 women with a history of pregnancy loss after natural conception who then underwent IVF and PGD.

The researchers compared the results with those of 117 infertile women with a history of recurrent pregnancy loss after IVF who then underwent PGD, and they also compared the results with those of 45 control patients with a history of recurrent pregnancy loss who underwent IVF without PGD.

Overall, the miscarriage rate after PGD was lower than the predicted loss rate (based on patient history of loss) across all groups. When the data were separated by the number of losses, the greatest difference between the observed loss rate and predicted loss rate was seen among women with histories of three to five losses (41% vs. 24%). The observed and predicted loss rates were 28% vs. 32% among women with histories of two pregnancy losses and 44% vs. 47% among women with histories of more than five pregnancy losses.

But the statistically significant differences appeared in the natural conception group. The observed pregnancy loss rate in these patients after IVF and PGD was 17%, compared with the predicted loss rate of 41%.

The reduction in miscarriage rates was not statistically significant among the infertile women or the controls.

The average age of women in all groups was 37 years. When the data were ana-

lyzed by age, the difference between observed and predicted miscarriage rates was significantly greater among women younger than 38 years (18% vs. 33%) compared with women aged 38 years and older (39% vs. 43%).

Of note, the aneuploidy rate was significantly higher in women younger than 37 years compared with women aged 38 and older, independent of the number of pregnancy losses.

As for clinical implications, the lack of a significant reduction in the miscarriage

rate for infertile patients who underwent PGD with IVF suggests that other confounding infertility factors may mask potential benefits from preimplantation genetic screening (PGS) to identify abnormal embryos, Dr. Garrisi said.

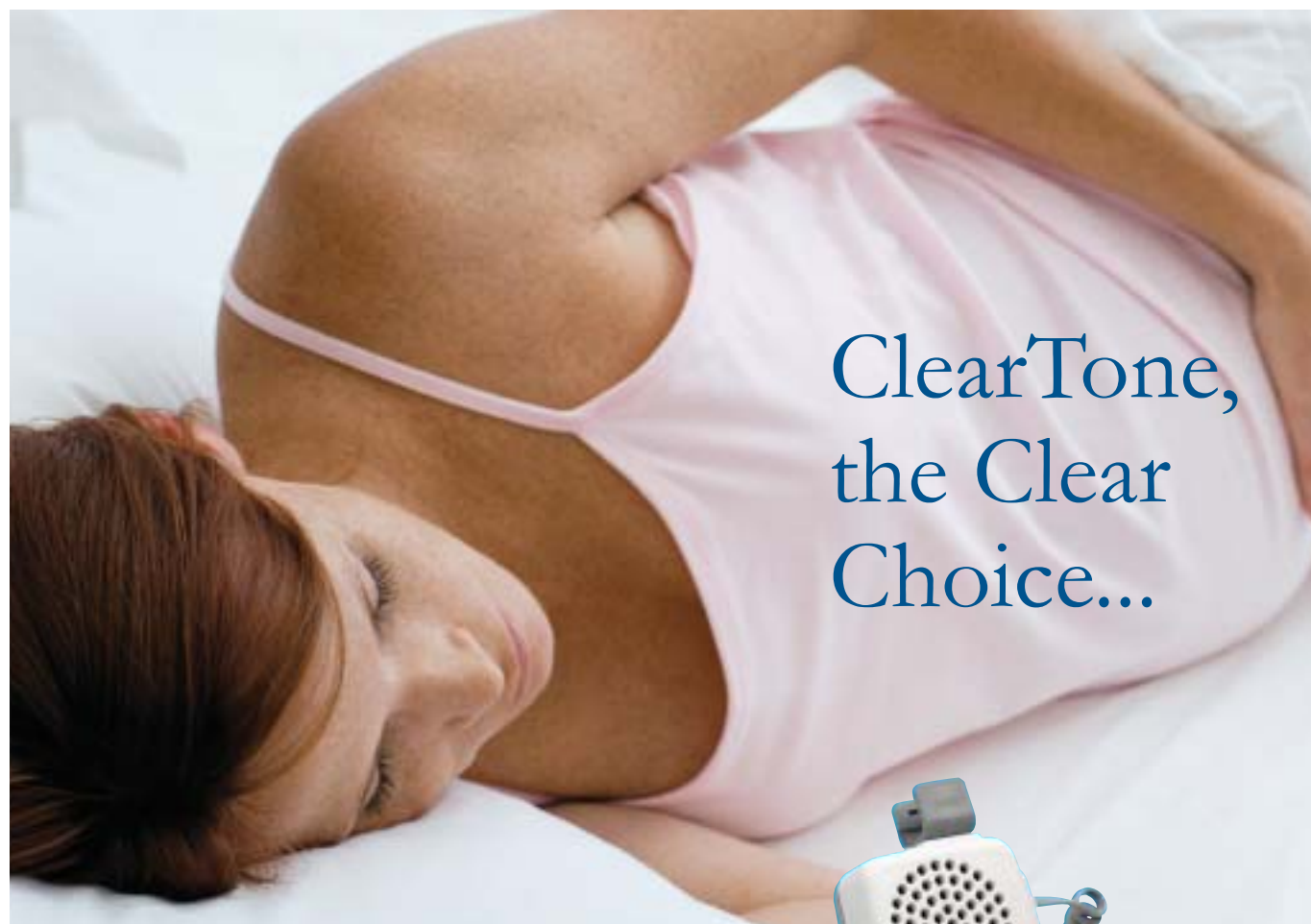
But Dr. Garrisi noted that he and his colleagues continue to use PGS in ART patients. "For the patients in this group who experience recurrent pregnancy loss, we expect PGS to benefit as PGD does in the spontaneous conception group," Dr. Garrisi noted. ■

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