EDITORIAL

On the Reduction of High-Order Multiple Pregnancies

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The preceding paper by Matson *et al.*, "The Transfer of Two Embryos Instead of Three to Reduce the Risk of Multiple Pregnancy: A Retrospective Analysis," adds to the ongoing debate regarding the appropriate number of embryos to be transferred in human in vitro fertilization procedures. There is a clear need to reduce the number of embryos transferred to eliminate high-order multiple pregnancies, while at the same time it is important to maintain acceptable pregnancy rates. In this retrospective analysis of 4.5 years' data from one program, it is reported that when there are more embryos available than required for transfer, then the transfer of two embryos results in higher implantation and pregnancy rates than the transfer of three embryos. To interpret such an apparently paradoxical finding, it is important to bear in mind that this is not a prospec-

tive, randomized trial, a point made clear by the authors. Unfortunately, the decision to transfer either two or three embryos was made "according to the prevailing policy of the unit," and therefore, there was probably not a time when patients received either two or three embryos. Rather, a whole series of patients, possibly as long as 2 years, received three embryos, while for the following 2 years patients received two embryos. Without such information it is difficult to validate the data presented as so many compounding variables could have impacted on the success of the program during the set time at which a specific number of embryos was transferred. Such variables include changes of laboratory personnel during the period of the analysis. Furthermore, it is plausible that when three-embryo transfers were the norm, then the third embryo may have been of inferior quality and hence the resultant implantation rate when three embryos were transferred was compromised. Again, without all the relevant information, it is difficult, and perhaps dangerous, to draw hard and fast conclusions.

Having stated this, Matson *et al.* are to be commended for sharing their data and discussing the need for the transfer of fewer embryos. My only concern is that programs now adopt a hard and fast rule about the number of cleavage-stage embryos for transfer, when clearly parameters such as embryo quality and patient age impact on pregnancy outcome and need to be considered for each individual.

The authors do, however, suggest a potential solution to the problem of high-order multiple pregnancies, in the form of blastocyst culture and transfer. Several laboratories around the world are currently investigating the efficacy of this approach. From the available literature, it appears that the implantation rate of the blastocyst is significantly higher than that of the cleavage-stage embryo. As the percentage of blastocyst

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development in culture in several systems is approximately 50%, blastocyst culture and transfer should be of benefit to patients with four or more embryos. Whether blastocyst culture and transfer have a role in

the treatment of poor responders has yet to be evaluated. However, it is clear that for patients at risk of conceiving triplets or more, then blastocyst culture and transfer is a realistic treatment.