Use of ultrasound guidance during embryo transfer

Dear Sir,

Coroleu et al. recently reported that the use of ultrasound guidance during embryo transfer improves pregnancy rates after IVF (Coroleu et al., 2000). In their randomized clinical trial, the pregnancy rate was 50% after ultrasound guided transfer, versus 33% after transfer using the clinical touch. Although we want to stress the importance of randomized trials to document improvements in embryo transfer technique, we are concerned about the methods used by the authors.

Firstly, nothing is stated about the timing and method of randomization. At what point in the IVF treatment randomization was performed? Was the analysis done according to the intention-to-treat-principle, i.e. were all patients that were randomized included in the analysis? With respect to the methods of randomization, did the authors use a computer program, sealed envelope, or other method? It is also of concern that a motivation for the number of patients included or the duration of the study is lacking.

A second point of concern is the method of transfer in the control group. We do not understand how it is possible to return the embryo as close to the fundus as possible, without touching it, in cases where the clinician has not been informed sonographically about the length. Indeed, if the fundus is touched in the course of the transfer, it seems evident that the control group may not provide the best standard for traditional embryo transfer techniques. There is evidence, albeit from non-randomized studies, that transferring the embryos by replacement at 6 cm without tracing the position of the fundus improves pregnancy rates (Naaktgeboren et al., 1998).

A last point of concern is the interpretation that the authors give to previously reported data (Kan et al., 1999). In that (non-randomized) study, pregnancy rates were 38 and 29% in the ultrasound and clinical touch groups respectively. Although it is true that this difference marginally fails to reach statistical significance, the relative risk (RR) that can be calculated from the data provided indicates a beneficial effect of the use of ultrasound (RR 1.31). In comparison, the RR that can be calculated from the study of Coroleu indicates a similar magnitude of the effect of the use ultrasound during transfer (RR 1.48).

In conclusion, we feel that the authors should clarify the randomization procedure and describe precisely the clinical touch transfer technique, in order to facilitate extrapolation of their study results to clinical practice.

References


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Dear Sir,

First of all I would like to thank Dr Rijnders and his colleagues for their letter and the opportunity to clarify a number of concepts from our article, thus ensuring that the aim of our study (Coroleu et al., 2000) has been clearly understood.

With respect to their first point, all of our patients were randomized on the day of embryo transfer, prior to the procedure being carried out. A computer-generated random table was used. There was only one inclusion criterion, namely that routine ovarian stimulation with down-regulation was used. All patients who initially entered the study were included in the analysis.

On the day of pituitary desensitization control, the uterine cavity of all patients was measured with ultrasound, and this length was used to guide the position of the catheter tip in the clinical touch group. This is important because not all women have the same length cavity and therefore using a standard measure, e.g. 6 cm (Naaktgeboren et al., 1998), may lead to the fundus being touched.

I think that the most important point in our study is that to see the tip of the catheter in the moment of embryo transfer is fundamental to the success of the IVF cycle. The stimulation treatment, the uterus position and other conditions can change the baseline uterus measures. One could say ‘to see or not to see, that is the difference’, and ultrasound is the best way of doing this. In this respect, Kan et al. (1999) comment that ‘on occasions, it has been observed that the catheter can curl and the tip would actually be directed towards the cervix without any awareness of this malposition by the clinician’.

References


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Letters to the Editor