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Results from the advanced reproductive technologies: fresh vs. frozen?

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Sir,

We read with interest the recent paper by Mocanu et al¹ comparing IVF success rates after fresh zygote transfer and frozen zygote transfer (FZT), which gives further reassurance on the safety of cryopreservation with IVF. Their findings from patients treated in 2001 are parallel to current results at our institution, where no important differences in reproductive outcome were evident. Table 1 summarises similar relationships across larger reference populations.

	Fresh IVF transfers	Clinical pregnancy rate/transfer	Frozen IVF transfers	Clinical pregnancy rate (per frozen transfer)
Ireland (national average)	-	30%	-	26%
EU average	-	27%	-	19%
Sims Clinic-Dublin	445	39%	163	41%

Mocanu et al also noted that 28% of their frozen human zygotes failed to survive thaw, and a substantially higher miscarriage rate was observed after FZT compared to fresh transfer (29% vs. 18.3%). This rate of embryo loss after thaw could be a reflection of better embryos being transferred fresh, but might also relate to specific freeze/thaw techniques. The authors are probably correct that poor embryo survival may simply be a manifestation of defective early development, and as a result we have advocated liberal use of extended in vitro culture to support those embryos most suitable for transfer². Recent work has concluded that single blastocyst transfer (done at day 5-6) is preferable to single zygote transfer (done at day 2), since this enables improved cumulative pregnancy rates by transferring a limited number of more advanced embryos. Blastocyst transfer also lowers higher-order multiple gestation risk with IVF, by allowing fewer embryos to be transferred^{3,4}.

Female age (yrs)	Patients in each age category	# of fresh embryos transferred (average)	Embryo implantation rate	Clinical pregnancy rate
<35	192	1.9	29.8%	46%
35 – 39	195	1.9	27.8%	37%
>40	58	2.0	14.6%	21%

Female age may have been one factor contributing to the IVF outcomes observed by Mocanu et al, although their analysis did not include pregnancy data stratified by patient age. At our institution the number of fresh embryos transferred, implantation rates, as well as pregnancy rates after IVF are all adversely influenced by increasing female age, as shown in Table 2.

We concur with Mocanu et al that best clinical practice promotes this conservative approach where the number of embryos normally transferred per patient does not exceed two, especially in the younger patient.

While Ireland has no national public registry to access IVF outcomes data for now, Mocanu et al give a welcome report underscoring the need for such a service. Likewise, ongoing quality management systems in place here will promote reporting of IVF outcomes data in a timely and independently verifiable manner, in compliance with guidelines established by the European IVF Monitoring group. Further monitoring of outcomes following fresh and frozen transfers in IVF is anticipated to corroborate these data published by Mocanu et al.

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