Blastocyst vitrification: a reliable technique

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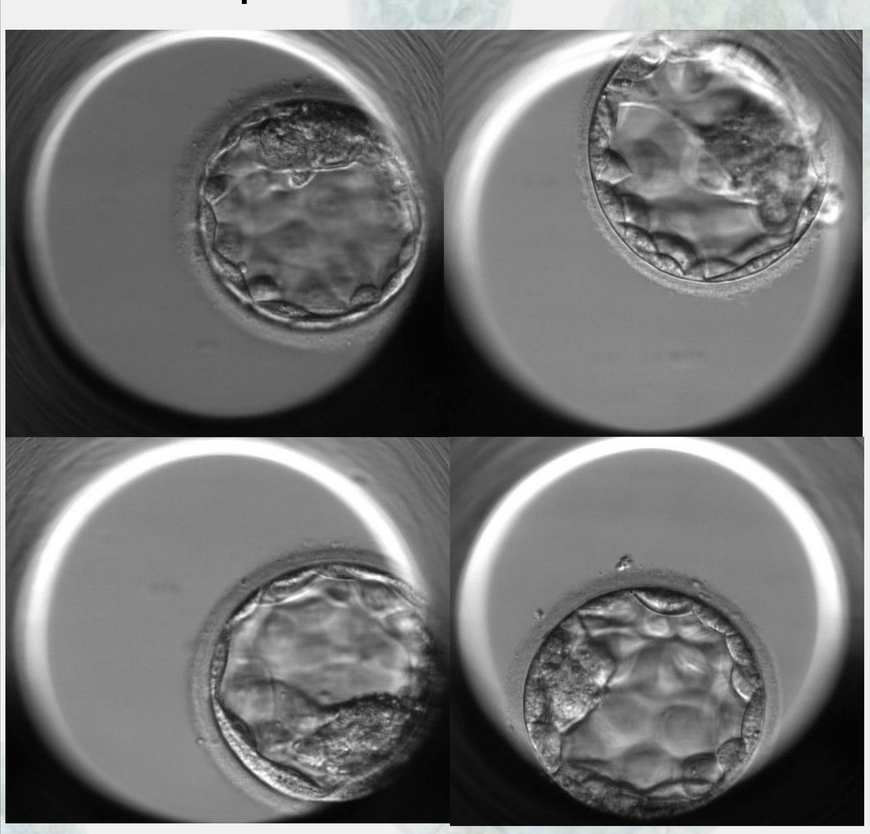
Introduction:

Many years ago, slow cryopreservation protocols blastocysts freezing were an unsafe technique due to low survival rate, high transfer cancellation rate and, of course, low pregnancy and implantation outcomes. Several modifications were performed to achieve better results like artificial shrinkage of blastocysts (mechanically or laser), freezing earlier blastocyst (less cavity), using different media protocols...with hopeful results.

Material & Methods:

Observational-database study. During past two years IMF laboratory performed 97 long culture cycles and simultaneously 55 cycles of vitrified/warmed blastocysts.After microinjection we placed the oocytes in Global Total(LifeGlobal) dishes in the Embryoscope (Unisense,Fertilitech). Dishes were cultured until day 5 when blastocyst selection was performed (6.0 % CO_2, 5.0 % O_2, 37 ºC). After that blastocyst were transferred in a single well dish with Global Total.Vitrified cycles were re-warmed with Kitazato Thawing kit (Kitazato Biopharma) and placed in Global Total

	Fresh blastocysts	Vitrified blastocysts
Age (years)	34.7 ± 2.1	34.2 ±2.3
N° blastocysts	165	103
Survival (%)	-	99 (96.1%)
Blastocyst transferred	1.7	1.8
Clinical pregnancy (%)	56 (57.7 %)	32 (57.1%)
Twins (%)	13 (23.2 %)	8 (25.0 %)
Implantation (%)	41.8 %	40.4 %



No statistical differences between groups (G-Stat)

Conclusions:

Blastocysts vitrification with Cryotop method improves the survival rate and achieves the same results as fresh blastocysts cycles in terms of pregnancy and implantation. Furthermore these results are independent of the type of blastocyst or the size of the cavity.