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## **Influence of re-vitrified human blastocyst on laboratory data, clinical outcomes and resulting babies**

<sup>1</sup>AKIKO KOIKE, <sup>1</sup>SATOSHI MIZUNO, <sup>1</sup>AISAKU FUKUDA,  
<sup>2</sup>YOSHIHARU MORIMOTO  
<sup>1</sup>IVF OSAKA CLINIC , <sup>2</sup>IVF NAMBA CLINIC

### **Introduction**

Elective single embryo transfer of blastocyst has been increasing lately. Therefore, the opportunity of not only vitrified, but also re-vitrified blastocyst has also increased. The objective of the present study was to determine the influence of re-vitrified blastocyst on laboratory and clinical outcomes of frozen-thawed embryo transfer compared to one time vitrified blastocyst

### **Materials & Methods**

Total of 1450 pregnancies between March 2006 and September 2012 from vitrified (n=1433) and re-vitrified (n=233) blastocyst transfers was used for analysis. Survival rate after thawing, pregnancy rate, miscarriage rate and the rate of congenital abnormality at birth were compared. There were 9 cases of stillbirth or abortion in the control group.

### **Results**

Survival rates after thawing in re-vitrified and vitrified group were 94.0% (219/233) and 97.4% (1402/1433) ( $p < 0.05$ ), respectively. Pregnancy rates were 39.5% (77/195) and 50.2% (628/1251) ( $p < 0.05$ ). Miscarriage rates were 23.4% (18/77) and 24.4% (153/628) (n.s.). The rates of congenital abnormality were 0% (0/50) and 2.7% (10/368).

### **Conclusions**

Survival rate after thawing and pregnancy rate of re-vitrified blastocysts were significantly lower than those of vitrified blastocysts. This might suggest that the process of repeated vitrification-warming may affect the quality of blastocysts or the quality of re-vitrified blastocyst was somewhat lower. Congenital abnormality did not increased by repeated vitrification so far. Re-vitrification of blastocyst decreased survival and pregnancy rates, but does not affect resulting newborn baby.