

## **Influence of pressure changes during embryo transfer on blastocyst viability**

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### **ABSTRACT**

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**Purpose:** The embryo transfer into the uterus by a transcervical catheter is the final stage of in-vitro fertilization procedure. So far, a little attention has been placed on the impact of embryo transfer procedure on embryo viability. The study was design to measure the morphological changes and apoptosis rate in embryos exposed to embryo transfer in in-vitro conditions.

**Methods:** Morphologically normal rabbit blastocysts were divided randomly into control (48) and experimental (48) groups. The experimental group blastocysts were exposed to embryo transfer in in-vitro conditions. Morphological changes in response to embryo transfer were assessed 5 and 60 minutes after ET. The apoptosis rate was measured one hour after embryo transfer.

**Results:** Morphological changes in response to embryo transfer were more prevalent in the experimental group; 14 shrunken and one collapsed blastocysts in experimental group and only two shrunken blastocysts in the control group. The mean DNA fragmented nucleus index in the experimental group was 37.7 % and was significantly higher than in the control group, 8.1 %.

**Conclusions:** Embryo transfer can trigger both morphological and apoptotic changes in rabbit blastocysts. The local pressure fluctuations during embryo transfer could be a major factor responsible for the above-mentioned changes.

**Key words:** apoptosis, blastocyst, embryo transfer, pressure.

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