

ABSTRACT

Background: Assisted hatching is a procedure in assisted reproductive technology that was created as a remedy for the inability of embryos to hatch after in vitro fertilization. In human, the indications for assisted hatching include elevated maternal age, elevated basal FSH, increased zona thickness, and unexplained implantation failure.

Objective: To determine the significance of zona opening in assisted hatching and examine the efficacy of assisted hatching procedure in mouse embryo (Swiss Albino).

Method: This preliminary study was conducted by culturing 2PN mouse embryo after in vivo mating. The developed mouse embryo, at 8 cell stage was then divided into three groups. Group II and group III were given assisted hatching with Acid Tyrode's solution to less than a quarter and more than a quarter of zona pellucida respectively and later observed for hatching. The results were analyzed using Chi-Square analysis where the P value was calculated.

Results: In group II, 8 out of 34 embryos hatched successfully meanwhile 34 out 45 embryos underwent hatching in Group III. The results were statistically significant ($p=0.0000051$) in favour of assisted hatching to more than a quarter zona pellucida.

Keywords: assisted hatching, acid Tyrode , zona opening