

## **Implantation failures: success of assisted hatching with quarter-laser zona thinning.**

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### **Abstract**

Implantation failure after IVF is one of the factors associated with a reduced chance of pregnancy for some patients. Assisted hatching methodologies are designed to facilitate the embryo's escape from the zona pellucida, and this strategy has been suggested as a means of improving pregnancy rates in patients with previous implantation failure. The aim of this prospective and randomized study was to evaluate the efficacy of quarter-laser zona thinning assisted hatching (qLZT-AH) in improving the implantation of embryos in patients with previous implantation failure. A total of 150 patients with a history of previous implantation failure were treated with intracytoplasmic sperm injection, and allocated into two groups: group 1, only one previous implantation failure, and group 2, repeated implantation failures. The patients in each group were randomized at the time of embryo transfer into a control group (no qLZT-AH) or experimental group where qLZT-AH was performed. For patients with repeated implantation failures, the implantation rate in those who received laser-thinned embryos was significantly higher ( $P = 0.02$ ) than in those whose embryos were not laser-thinned (10.9 and 2.6% respectively). However, this difference was not observed in patients who presented with only one previous implantation failure. The data demonstrate that qLZT-AH is an effective strategy for improving the implantation of embryos in patients with repeated implantation failures.