Electro–acupuncture as a peroperative analgesic method and its effects on implantation rate and neuropeptide Y concentrations in follicular fluid

Elisabet Stener–Victorin1,6, Urban Waldenström2, Matts Wikland3, Lars Nilsson1, Leif Hägglund4 and Thomas Lundeberg5

Abstract

BACKGROUND: In a previous study on the effect of electro–acupuncture (EA) in combination with a paracervical block (PCB) as an analgesic method during oocyte aspiration in IVF treatment, EA appeared to increase the pregnancy rate. This study was designed to test the hypothesis that EA as an analgesic during oocyte aspiration would result in: (i) a better IVF pregnancy rate than with alfentanil; (ii) peroperative analgesia that was as good as that produced by alfentanil; (iii) less postoperative abdominal pain, nausea and stress; and (iv) a reduction in the use of additional analgesics. Neuropeptide Y (NPY) concentrations in follicular fluid (FF) were analysed when possible. METHODS AND RESULTS: In this prospective, randomized, multicentre clinical trial, 286 women undergoing oocyte aspiration were randomly allocated to the EA group (EA plus a PCB) or to the alfentanil group (alfentanil plus a PCB). No significant differences were found between the EA and alfentanil groups in any of the IVF variables. NPY concentrations in FF were significantly higher in the EA group compared with the alfentanil group. No correlation between pregnancy rate and NPY concentrations was found in either analgesic group. Both EA plus a PCB and alfentanil plus a PCB induced adequate peroperative analgesia during oocyte aspiration evaluated using the visual analogue scale. After 2 h, the EA group reported significantly less abdominal pain, other pain, nausea and stress than the alfentanil group. In addition, the EA group received significantly lower amounts of additional alfentanil than the alfentanil group. CONCLUSION: EA does not improve pregnancy rate in the present clinical situation. The observation that NPY concentrations in FF were higher in the EA group may be important for human ovarian steroidogenesis. The analgesic effects produced by EA are as good as those produced by conventional analgesics, and the use of opiate analgesics with EA is lower than when conventional analgesics alone are used.

Key words

Key words: alfentanil/analgesia/electro–acupuncture/neuropeptide Y/oocyte aspiration