

# Women's experience of pain and pain relief in assisted reproductive technology

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av

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*Avhandlingen baseras på följande arbeten:*

- I. Gejervall A-L, Stener-Victorin E, Möller A, Janson PO, Werner C and Bergh C.  
Electro-acupuncture versus conventional analgesia; a comparison of pain levels during  
oocyte aspiration and patient's experiences of well-being after surgery.  
*Human Reproduction 2005;20;3:728-735.*
- II. Cerne A, Bergh C, Borg K, Ek I, Gejervall A-L, Hillensjö T, Olofsson J I, Stener-  
Victorin E, Wood M and Westlander G.  
Pre-ovarian block versus paracervical block for oocyte retrieval.  
*Human Reproduction 2006;21;11:2916-2921.*
- III. Gejervall A-L, Stener-Victorin E, Cerne A, Borg K and Bergh C.  
Pain aspect in oocyte aspiration for IVF.  
*Reproductive BioMedicineOnline 2007;14;2:184-190.*
- IV. Gejervall A-L, Lundin K, Stener-Victorin E and C Bergh.  
Effect of alfentanil dosage during oocyte retrieval on fertilisation and embryo quality.  
*Submitted Reproductive BioMedicineOnline 2008.*

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## ABSTRACT

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**Women's experience of pain and pain relief in assisted reproductive technology.**

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The overall aim of this thesis was to evaluate and compare different methods for pain relief during oocyte retrieval and to study women's expectations and experiences of pain during oocyte retrieval in conjunction with in vitro fertilization.

Paper I, an open prospective randomized controlled trial, including 160 women had the primary aims of comparing the pain relieving effects of electro-acupuncture and conventional analgesia, comprising opiates, in conjunction with oocyte retrieval, and to compare post-operative well-being between groups. For measurements of pain the Visual Analogue Scale (VAS) was used and post-operative well-being was assessed using the State Trait Anxiety Inventory test. Our findings showed that women who used electro-acupuncture had significantly more pain during surgery than women who received conventional analgesia. Well-being between groups was comparable.

In paper II, a prospective single blinded randomized multicentre study with a total of 183 women two techniques for local anesthesia were compared; pre-ovarian block and paracervical block, in combination with conscious sedation. VAS and the McGill Pain Questionnaire were used for pain ratings. No significant difference between paracervical block and pre-ovarian block was found in terms of pain relieving effects. No differences in fertilization and embryo development were observed.

Study III, an observational two-centre study of 124 women, evaluated women's expectations regarding pain before oocyte retrieval and whether their experienced pain was in accordance with the expected pain. VAS and multiple choice questions of our own construction were used for measurements. It was found that women experienced significantly less pain during oocyte retrieval than they expected before surgery.

Study IV was a retrospective study evaluating the effects of analgesic drugs used at oocyte retrieval, in particular different doses of alfentanil, on fertilization rate and/or embryo quality. A total of 663 women were included. Data was collected from the clinical database at Reproductive Medicine, Sahlgrenska University Hospital and from the women's hospital records. No differences in fertilization rate or embryo quality were observed in relation to the amount of drug used for analgesia.

*In conclusion*, the results of these studies showed that electro-acupuncture cannot generally be recommended as a general pain relief method for oocyte retrieval, but might be used as an alternative for women desiring a non-pharmacological method (Paper I). One advantage of electro-acupuncture was significantly less tiredness and confusion compared with conventional analgesia.

Both pre-ovarian block and paracervical block offered good pain relief and were considered safe methods with rapid recovery and ease of administration and monitoring (Paper II).

Since women experienced significantly less pain in conjunction with oocyte retrieval than they expected before surgery, this is important information for women who are about to start IVF. It might reduce their apprehension about pain levels during the procedure (Paper III). High doses of alfentanil compared to low doses were not associated with any adverse effects on fertilization rate, embryo development or clinical pregnancy rate, assuring that women can be offered adequate pain relief (Paper IV).

*Keywords:* oocyte retrieval, pain relief, randomized controlled trial, pain, fertilization rate, embryo development, Visual Analogue Scale

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