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**Nausea and vomiting in patients receiving
acupuncture, sham acupuncture or standard care during radiotherapy**

Anna Enblom, 2008

Akademisk avhandling

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Nausea and vomiting in patients receiving acupuncture, sham acupuncture or standard care during radiotherapy

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Background and aim: Many patients with cancer experience emesis (nausea and vomiting) during radiotherapy. The overall aim of this thesis was to improve the situation for patients with risk for emesis during radiotherapy, by evaluating emesis in patients receiving verum (genuine) acupuncture, sham (simulated) acupuncture or standard care during radiotherapy. **Methods:** In study I, a cross-sectional sample (n=368) treated with radiotherapy over various fields answered a study-specific questionnaire. In study II, 80 healthy volunteers were randomized to receive needling with verum acupuncture or non-penetrating telescopic sham needles by one of four physiotherapists. In study III, 215 patients were randomly allocated to verum (n=109) or non-penetrating telescopic sham (n=106) acupuncture during their entire radiotherapy period over abdominal or pelvic fields. The same 215 patients were also included in study IV. They were compared to 62 patients irradiated over abdominal or pelvic fields, selected from study I. **Results:** In study I, the weekly prevalence of nausea was 39 % in all radiotherapy-treated patients and 63 % in abdominal or pelvic irradiated patients. Age younger than 40 years and previous experience of nausea in other situations were characteristics associated with an increased risk for nausea. Of the 145 nauseous patients, 34 % considered their antiemetic treatment as insufficient. Patients with nausea reported lower level of quality of life compared to patients free from nausea. In study II, most individuals needled with verum (68 %) or sham (68 %) acupuncture could not identify needling type, and that blinding result varied from 55 to 80 % between the four therapists. In study III, nausea was experienced by 70 % (mean number of days=10.1) and 25 % vomited during the radiotherapy period. In the sham group 62 % experienced nausea (mean number of days=8.7) and 28 % vomited. Ninety five percent in the verum and 96 % in the sham group believed that the treatment had been effective for nausea. In both groups, 67 % experienced other positive effects, on relaxation, mood, sleep or pain-reduction, and 89 % were interested in receiving the treatment again. In study IV, the weekly prevalence of nausea and vomiting was 38 and 8 % in the verum group, 37 and 7 % in the sham group and 63 and 15 % in the standard care group. The nausea difference between the acupuncture and the standard care cohort was statistically significant, also after overall adjustments for potential confounding factors. The nausea intensity in the acupuncture cohort was lower compared to the standard care cohort (p=0.002). Patients who expected nausea had increased risk for nausea compared to patients who expected low risk for nausea (Relative risk 1.6). **Conclusions and implications:** Nausea was common during abdominal or pelvic field irradiation in patients receiving standard care. Verum acupuncture did not reduce emesis compared to sham acupuncture, while reduced emesis was seen in both patients treated with verum or sham acupuncture. Health-care professionals may consider identifying and treating patients with increased risk for nausea in advance. The telescopic sham needle was credible. Researchers may thus use and standardize the sham procedure in acupuncture control groups. The choice of performing acupuncture during radiotherapy cannot be based on arguments that the specific characters of verum acupuncture have effects on nausea. It is important to further study what components in the acupuncture procedures that produce the dramatic positive but yet not fully understood antiemetic effect, making it possible to use those components to further increase quality of care during radiotherapy.

Key words: *Acupuncture, Cancer, Emesis, Placebo, Radiotherapy*
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