

# Anesthesia for breast cancer surgery has no influence on risk of tumor recurrence

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One of the largest global studies in the field of anesthesia, in which the MedUni Vienna has participated, showed that, following curative breast cancer surgery under regional anesthesia, the risk of recurrence was not reduced in comparison to general anesthesia with opioids. These data disprove the assumption that anesthesia might have a negative impact on

breast cancer recurrence. The results have been recently published in *The Lancet*.

The international study was conducted over 10 years and included more than 2,000 women undergoing curative breast cancer surgery. Researchers investigated whether the method of anesthesia affects the risk of recurrence. For the purposes of the study, patients were followed-up regarding their recurrence rates at regular intervals over a period of several years. Regional anesthesia did not show advantages in terms of recurrence of breast cancer.

Together with colleagues from Cleveland, Dublin, Düsseldorf and Peking, the MedUni Vienna team led by Edith Fleischmann and Peter Marhofer from the Department of Anesthesia, Critical Care and Pain Medicine of MedUni Vienna and Vienna General Hospital was able to dispel the concerns regarding long term negative effects of opioids in cancer surgery.

"This should help to counteract the recent concerns against using opioids in anesthesia," says Edith Fleischmann, highlighting the significance of the results. In fact, animal trials have shown a correlation between opioids and weakening of the immune system with subsequent effects on tumor growth. "The recent clinical study has shown that opioids do not have any negative impacts on the underlying disease and are an important medical treatment. This is a significant finding for clinical research. We were able to disprove the theory that anesthesia has a negative impact on tumor growth in breast cancer. At the same time, it demonstrates the importance of clinical trials to validate or—as in this case—refute the results of in vitro and animal studies.

## **Advantages of regional anesthesia**

The large number of patients included in this study has not only provided

robust data, but also add important scientific findings. "Both general anesthesia and regional anesthesia are safe anesthesia methods with very few side-effects and complications," explains Peter Marhofer. The present study investigated paravertebral blockade (a regional anesthesia / analgesia method for one side of the chest) for breast cancer surgery, where patients were spontaneously breathing and only sedated.

"Paravertebral block has some advantages over general anesthesia for breast cancer operations," explains Marhofer, a pioneer of regional anesthesia, "for example, patients experienced comparatively less pain immediately after the operation and were less likely to suffer from post-operative nausea and vomiting."

This randomized trial was started under the direction of Daniel Sessler from Cleveland Clinic, U.S., and the MedUni Vienna/Vienna General Hospital team included appr. 200 patients in the study. This trial investigated only [breast](#) cancer recurrence. Future trials are needed in larger operations such as prostate or colo—rectal [cancer](#). They provoke more surgical stress and require more opioids in the perioperative period.

**More information:** Daniel I Sessler et al. Recurrence of breast cancer after regional or general anaesthesia: a randomised controlled trial, *The Lancet* (2019). [DOI: 10.1016/S0140-6736\(19\)32313-X](https://doi.org/10.1016/S0140-6736(19)32313-X)

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