

The breast cancer and the perioperative window

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Abstract

Most current research in cancer is attempting to find ways of preventing patients from dying after metastatic relapse. Driven by data and analysis, this project is an approach to solve the problem upstream, i.e., to prevent relapse. This project started with the unexpected observation of bimodal relapse patterns in breast and a number of other cancers. This was not explainable with the current cancer paradigm that has guided cancer therapy and early detection for many years. After much analysis using computer simulation and input from a number of medical specialists, we eventually came to the conclusion that the surgery to remove the primary tumor produced systemic inflammation for a week after surgery. This systemic inflammation apparently caused exits of cancer cells and avascular micrometastases from dormant states and resulted in relapses in the first 3 years post-surgery. Two animal studies agree with these findings. It was determined in two retrospective studies that the common inexpensive perioperative NSAID ketorolac could curtail the early relapse events after breast cancer surgery. Ketorolac is routinely used at the surgeon's option either before or after breast cancer surgery at Beth Israel Deaconess Medical Centre. Based on what we now know, surgeons and anesthesiologists should take extra efforts to reduce systemic inflammation during the perioperative window.

Biography:

Michael Retsky received PhD in experimental physics from University of Chicago in 1974. While working at Hewlett-Packard in Colorado Springs in 1982, a friend started an informal cancer research project since his wife was being treated for cancer. Over the next years, Retsky made a career change into cancer research. His first paper in oncology (Cancer Research 1984) predicted that tumour

growth included periods of dormancy. He eventually became Prof of Biology at Univ of Colorado and later on staff of Judah Folkman at Harvard. He is now Hon Assoc Prof at University College London. Retsky was diagnosed with Stage IIIc colon cancer in 1994. Based on his knowledge of tumour kinetics he used low-dose, long-term chemotherapy instead of maximum tolerated chemotherapy. This became the first use of metronomic chemotherapy.

