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Perioperative NSAIDs may reduce early relapses in breast cancer: Perhaps transient systemic inflammation after surgery leads to these relapses

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Abstract

Metastatic relapse after diagnosis of early stage breast cancer is the common pathway leading to mortality from the disease. How to prevent relapses remains perhaps the most important unsolved problem in oncology. We need to learn more about mechanisms of metastases seeding and progression for a variety of clinical and scientific reasons.

As my colleagues and I recently reported, analysis of clinical breast cancer relapse data after mastectomy suggests most distant relapses occur within 4 years of surgery and are precipitated or accelerated by something that happens around the time of surgery. Sudden growth from single cells and angiogenesis of avascular micrometastases are indicated. Late relapses are not accelerated by surgery. Many clinical characteristics of breast cancer can be explained with this hypothesis. Recent retrospective analysis of clinical data from one Brussels hospital indicates early relapse events were reduced 5-fold when NSAID ketorolac was used as perioperative analgesic. Combining the surgery induced metastatic activity hypothesis with these data suggests transient systemic inflammation following primary tumor removal may facilitate most metastatic activity and was effectively blocked by the perioperative NSAID. Post-surgical systemic inflammation has been independently verified by inflammatory marker IL-6 presence in serum. While breast cancer is known as a disease that runs its course in over a decade, most of the damage seems to occur in the week or two after surgery. This suggests new mechanisms for metastatic initiation and progression and possibly an effective nontoxic, low cost intervention that may significantly reduce mortality from breast cancer.

Biography

Michael Retsky (Ph.D in physics from University of Chicago) made a career change from physics to cancer research. He is Editor-in-Chief of Journal of Bioavailability and Bioequivalence, on staff at Harvard School of Public Health, faculty at University College London, and Prof Adj at UANL, Monterrey, Mexico. He was on Judah Folkman's staff at Harvard Medical School for 12 years. He is on the board of directors of the Colon Cancer Alliance (www.ccalliance.org) and has published more than 60 papers in physics and cancer. He has a patent pending for treatment of early stage cancer.