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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

Whenever biosimilars are discussed, a common remark is that many blockbuster drugs are going to lose patent protection within a few years. There is significant effort underway to capitalize on this opportunity with new biosimilars. A few of these applications where new biosimilars are under development to replace blockbuster drugs are in oncology. While there have been important improvements in recent years, a general method to prevent relapse from early stage cancer is one of the most important unsolved problems in oncology. My colleagues and I reported what may be a major development in preventing early relapses - which constitute the majority of all relapses in breast cancer.

We came to the conclusion years ago that something happens at or around the time of surgery to trigger metastatic growth leading to early relapses. Recent data suggests an unexpected mechanism. Retrospective examinations were conducted comparing various perioperative analgesics and anesthetics. Patients were treated conventionally. An NSAID analgesic produced far superior disease-free survival in the first 5 years after surgery. The expected prominent early relapse events are reduced 5-fold.

If this observation holds up to further scrutiny, it could mean that the use of safe, inexpensive, and nontoxic anti-inflammatory agents at surgery might eliminate most early relapses. Transient systemic inflammation accompanying surgery (identified by markers in serum) could facilitate angiogenesis of dormant micrometastases, proliferation of dormant single cells, and seeding of circulating cancer stem cells (perhaps in part released from bone marrow) resulting in early relapse and could have been effectively blocked by the perioperative anti-inflammatory agent.

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.