Perioperative use of NSAID might prevent early relapses in Breast and other Cancers

Michael W Retsky
Harvard TH Chan School of Public Health, USA

A bimodal pattern of hazard of relapse among early stage breast cancer patients has been identified in multiple databases from US, Europe and Asia. My colleagues and I have been studying these data to determine if this can lead to new ideas on how to prevent relapse in breast cancer. Using computer simulation and access to a very high quality database from Milan for patients treated with mastectomy only, we proposed that relapses within 3 years of surgery are stimulated somehow by the surgical procedure. Most relapses in breast cancer are in this early category. Retrospective data from a Brussels anesthesiology group suggests a plausible mechanism. Use of ketorolac, a common NSAID analgesic used in surgery was associated with far superior disease-free survival in the first 5 years after surgery. The expected prominent early relapse events in months 9-18 are reduced 5-fold. Transient systemic inflammation accompanying surgery (identified by IL-6 in serum) could facilitate angiogenesis of dormant micrometastases, proliferation of dormant single cells, and seeding of circulating cancer cells resulting in early relapse and could have been effectively blocked by the perioperative anti-inflammatory agent. If this observation holds up to further scrutiny, it could mean that the simple use of this safe, inexpensive and effective anti-inflammatory agent at surgery might eliminate early relapses. We suggest this would be most effective for triple negative breast cancer and be especially valuable in low and middle income countries. Similar bimodal patterns have been identified in other cancers suggesting a general effect. There are now two retrospective studies (Forget et al 2010 and Desmedt et al 2018) and an animal model (Krall et al 2018) supporting this hypothesis but a prospective clinical trial is still needed. We are interested in conducting a prospective clinical trial for TNBC at Harvard. We think it will reduce relapse and mortality by 25 to 50% at low cost and toxicity. Use of tranexamic acid may reduce post-operative bleeding. Video is presented.

Speaker Biography

Michael Retsky (PhD in Physics from University of Chicago) made a career change to cancer research thirty years ago. He was on Judah Folkman's staff at Harvard Medical School for 12 years. Diagnosed with stage IIIc colon cancer in 1994, he opted for a low dose long term chemotherapy protocol that is now called metronomic chemotherapy. Retsky is Editor and Romano Demicheli is Co-Editor of a Springer/Nature book on breast cancer published in July 2017. Retsky is a founder of the Colon Cancer Alliance and has published more than 90 papers in physics and cancer.

e: michael.retsky@gmail.com

Notes: