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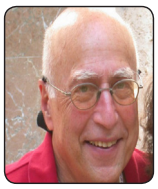
Abstract



Method to prevent early relapses in breast and other cancers

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Abstract:
My colleagues and I have been studying a bimodal relapse pattern in breast cancer. This project started in 1993 when data from Italy and UK showed an unexpected bimodal relapse pattern in breast cancer. It seemed that 50 to 80% of all relapses in patients treated only with surgery occurred in an early wave of relapses in the first 3 years post-surgery. We have reported a reasonable explanation over the years. It appears that the surgery to remove a primary tumor causes systemic inflammation for a week. During that time, dormant single malignant cells and avascular deposits escape from dormancy and appear as relapses within 3 years. The authors of these reports include medical oncologists, surgeons, anesthesiologists, physicists and other scientists from several fields.A potential solution seems to exist based on our analysis, data, and retrospective studies. That therapy is the common inexpensive analgesic ketorolac administered as iv at the time of surgery.We edited a book in 2017 that was published by Springer-Nature (1) and a number of papers including one recently published (2). Other reports support this and suggest mechanisms (3,4). We now show data that predicts this is a process that applies to many solid and other cancers. Based on data from lung cancer, inflammation level on the first day post-surgery predicts outcome.We propose that this disruptive innovation will result in a paradigm shift in oncology. However there is no financial profit from this development making our task more difficult. Our initial focus is on the special case of how to treat breast cancer in low and middle income countries (LMIC) starting with Nigeria. There is a special need in LMIC in that they have 70% of the world's cancer burden but only 5% of the resources. Later we can address other cancers in other countries.

Biography:
Michael Retsky received PhD in experimental physics from University of Chicago in 1974. He was working at Hewlett-Packard in Colorado Springs in 1982 when a friend started an informal cancer research project since his wife was being treated for cancer. Over the next few years, Retsky became much more interested in cancer research than physics research. Due to an

unusual situation, he had some time to read literature on oncology and use HP computers to study tumor growth. His first paper in oncology (Speer et al Cancer Research 1984) predicted that tumor growth included periods of dormancy. He eventually made a career change ending up on staff of Judah Folkman at Harvard. He was diagnosed with Stage IIIc colon cancer in 1994 and based on his research, decided on low-dose, long-term chemotherapy instead of maximum tolerated chemotherapy. This became the first use of metronomic chemotherapy for early stage cancer.

Publication of speakers:

- Michael Retsky et al ; An argument for discovery-driven research: from physicist to cancer researcher, 2014 Jul 3
- Michael Retsky et al ; Reduction of Breast Cancer Relapses with Perioperative Non-Steroidal Anti-Inflammatory Drugs: New Findings and a Review, 2013 Nov 20
- Michael Retsky et al ; Promising development from translational or perhaps anti-translational research in breast cancer, 2012 Aug 28.
- Michael Retsky et al ; New Concepts in Breast Cancer Emerge from Analyzing Clinical Data Using Numerical Algorithms, 2009 Jan 20.
- Michael Retsky et al ; Recent translational research: computational studies of breast cancer,
- 2004 Nov 17

6th International Conference on Stem Cell Research, Cell and Gene Therapy; July 20-21, 2020; Paris, France.

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