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### **Accidental discoveries on systematic studies of tumorigenesis and angiogenesis: Perspectives for prevention and therapy of antigen (Virus)-causing cancers**

Factors responsible for extremely slow progress in cancer research and failed therapies include absence of systematic studies on multistep tumorigenesis and ongoing controversies and misunderstanding on the roles that inflammation play in carcinogenesis and angiogenesis. In 1980's our experimental models of acute and chronic ocular inflammatory diseases resulted in tumorigenesis and angiogenesis. Recent analyses of original data became 'accidental' discoveries on systematic identification of time-course kinetics of interaction and synergies between host immune cells (e.g., mast, goblet and B cells) and recruiting cells (e.g., eosinophils, macrophages) during acute, intermediate and chronic phases of inflammatory responses and induction of hyperplasia of conjunctival-associated lymphoid tissues. Results are the first systematic studies on sequential alterations of immunity toward tissue growth. Acute inflammation was defined as balance between two biologically opposing arms (Yin-Yang) of immune and non-immune (e.g., vasculature, neurodegenerative and metabolic) responses. Chronic inflammation or loss of balance in Yin and Yang of immunity was hypothesized as common link in genesis of all age-associated chronic diseases or cancer. Future efforts to promote immunity should include systematic understanding of host-pathogen interactions in susceptible tissues. Outcomes are expected to hold real promises in understanding how cancer cells become threat to body and how translate cancer biology into cost-effective drug designs and clinical trials.

#### **Biography**

Mahin Khatami received her PhD in Molecular Biology from Univ. PA (1980). She was a Research Faculty at Univ. PA, involved in cell biology of diabetes complications and ocular inflammatory diseases. In 1998, at NCI/NIH extension of her discoveries and efforts to promote role of inflammation in cancer research met with serious opposition. Currently, topic of inflammation in cancer research and therapy is the focus of numerous funded projects. She authored over 100 articles, book chapters and proceedings. She has lectured internationally and was President/VP for GWIS. She was also a member of scientific and editorial organizations. In 2012, she edited 2 books on inflammatory diseases, aging, cancer and therapies.

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