

Perspectives of breast cancer etiology: Synergistic interactions between smoking carcinogens and exogenous hormone use

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Breast cancer has been a big global health issue since 1990s. Breast cancer incidence ranks first among all women cancers and continues to raise worldwide, most rapidly in low risk populations. In the past decades, thousands of medical/health/other scientists have been devoted to breast cancer research. The etiology of breast cancer, however, is not completely understood. This presentation will address the perspectives of breast cancer etiology and new research directions based on comprehensive information from molecular medicine, clinical medicine, and epidemiology of breast cancer including (1) plausibility of smoking in breast carcinogenesis; (2) physiological properties, susceptibility windows, and exposure timing of breast cells; (3) role of exogenous hormones in breast carcinogenesis; (4) biological mechanisms of synergistic interactions between smoking and exogenous hormones in breast carcinogenesis; and (5) evidence from epidemiologic studies and the fitted secular trend between smoking rate, exogenous hormone use, and breast cancer incidence in past decades.

Biography

Hong-Hong Zhu obtained her Ph.D. in Epidemiology from Johns Hopkins University Bloomberg School of Public Health, M.Sc. from Clemson University, and M.D. from Zhejiang University. Dr. Zhu has expertise in epidemiologic methods, application of epidemiologic methods in clinical medicine, public health and other health sciences, cancer and other chronic diseases prevention and control, toxicology, food and nutrition, and molecular medicine. Especially, Dr. Zhu has a unique expertise in translating basic research into animal/tissue research and into clinical and population research and vice versa, interpreting clinical and population research results using biologic mechanisms from basic and animal/tissue research.

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