

University of Maryland Baltimore Graduate School

Announcement of Doctoral Dissertation Defense*

Candidate: Shahinaz Gadalla

Date: Thursday April 24, 2008

Time: 9:00 am

Place: Bressler 14-007

Dissertation Title: "Systemic Autoimmune Rheumatic Diseases (SARDs) and breast cancer risk in elderly women"

Dissertation Abstract:

Background: Systemic Autoimmune Rheumatic Diseases (SARDs) have been inconsistently associated with breast cancer risk. Evaluating this association is important as both diseases are common in women. **Methods:** We designed a population-based case-control study of elderly women using SEER-Medicare linked database. Female incident breast cancer cases, diagnosed between 1993 and 2002 (n=84,778), were compared to an equal number of age-matched cancer-free female controls. History of SARDs including rheumatoid arthritis (RA, n=5238), systemic lupus erythematosus (SLE, n=340), Sjogren's syndrome (SS, n=374), systemic sclerosis (SSc, n=128) and dermatomyositis (DM, n=31) from age 65 to one year prior to case/control selection was determined from Medicare claim files. Women with more than one SARD were considered to have an overlap syndrome (n=318). SARDs with annual or more frequent rheumatologist claims were defined as severe cases, others as mild. Associations with breast cancer (overall and by the tumor estrogen-receptor status) were estimated by unconditional logistic regression adjusting for socio-demographic and health utilization variables.

Results: Elderly women with RA, primarily those with mild form, were less likely to develop breast cancer (OR=0.87, 95%CI=0.82-0.93), either estrogen receptor-positive (ER+) or estrogen receptor-negative

(ER-) tumors. In women with SLE, the risk of having ER- but not ER+ (OR=0.49, 95% CI= 0.26-0.93 and 1.1, 0.86-1.4 respectively), breast cancers were lower than the risk in women without any SARDs. Although none of the other SARDs was significantly associated with breast cancer, risk tended to be reduced with mild form but increased with severe form of SSc and DM.

Conclusion: The association between SARDs and breast cancer varies by SARD subtype and severity status. SARDs affect breast cancer risk differentially according to the estrogen receptor status of the tumor. These findings support the hypothesis that the immune system alters breast cancer risk.

Dissertation Committee Chair:

Sania Amr, MD, Ms; Associate professor, Department of Epidemiology & Preventive Medicine

Dissertation Committee Members:

Patricia Langenberg, PhD; Vice chair and professor, Department of Epidemiology & Preventive Medicine

Mona Baumgarten, PhD; Associate professor, Department of Epidemiology & Preventive Medicine

Wendy Davidson, PhD; Associate professor, Department of Microbiology and Immunology

Catherine Schairer, PhD; Epidemiologist, Division of Cancer Epidemiology and Genetics, NCI

James Goedert, MD; Senior Investigator, Division of Cancer Epidemiology and Genetics, NCI