

We proposed to examine molecular and genetic predictors of proliferative benign breast disease within the Nurses' Health Study II. Because of the strong evidence implicating the insulin-like growth factor I (IGF-I) pathway in premenopausal breast cancer, we focused on examining circulating levels and genetic variation in IGF-I and IGFBP-3 in relation to proliferative benign breast disease. To date, no study has assessed these relationships.

Specifically, we hypothesized:

1. Circulating levels of IGF-I will be positively associated and IGF binding protein-3 (IGFBP-3) will be inversely associated with proliferative benign breast disease.
2. Specific polymorphisms of IGF-I, and IGFBP-3 will be related to increased risk of proliferative benign breast disease.

Progress:

In order to evaluate the aims above, we initiated a case-control study nested within the cohort of women who returned a blood sample in 1998. We have completed the selection process for this nested case-control study.

Case Selection. We have identified incident cases of proliferative breast disease (n=366) in the Nurses' Health Study II. These women are participants who reported a first diagnosis of biopsy –confirmed BBD on the 1993, 1995, or 1997 questionnaires for which we were able to obtain pathology specimens. Biopsy slides underwent central review by one of four collaborating pathologists (S.J Schnitt, J.L Connolly, T.W. Jacobs or G. Peiro). All slides from the breast biopsies were classified as normal, proliferative without atypia and atypical hyperplasia. Only women with proliferative without atypia or atypical hyperplasia are included in this study (total =366).

Control Selection. We selected one control per case identified above. We used incidence density sampling (by questionnaire cycle) and sampled without replacement since the blood is in limited supply (i.e. a control cannot be selected twice and a case cannot be selected as a control in an earlier time period). The control must have reported a clinical breast exam or mammography screening to be eligible for selection. All controls must have provided a blood sample, had no prior cancer (except nonmelanoma skin cancer) or benign breast disease up to and including the questionnaire cycle in which the case reported her biopsy confirmed BBD diagnosis. Controls were matched to cases on: age, menopausal status at time of diagnosis, month and year of blood draw, time of blood collection, fasting status at blood draw, luteal day and ethnicity.

The Nurses' Health Study II blood laboratory has generated the list of IDs for this study and has pulled the sample required for the plasma assays. The samples have been sent to the Pollack Laboratory where circulating levels of both IGF-I and IGFBP-3 are being assayed by ELISA using reagents from Diagnostic Systems Laboratory (Webster, TX). We are still awaiting results from the laboratory. These same IDs will also have DNA samples pulled for genotyping assays.

CURRICULUM VITAE

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Place of Birth: Chicago, IL

Education:

1993	BS	Tufts University (Biology)
2000	MS	Harvard School of Public Health (Epidemiology)
2003	ScD	Harvard School of Public Health (Epidemiology)

Academic Appointments:

2003-	Instructor in Medicine, Harvard Medical School
2004-	Instructor in Epidemiology, Harvard School of Public Health
2005-	Instructor in Medicine, Department of Cancer Biology, Dana Farber Cancer Institute

Hospital or Affiliated Institution Appointments:

2003-	Associate Epidemiologist, Department of Medicine, Brigham and Women's Hospital
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Professional Societies:

2003-	American Association for Cancer Research, Associate Member
2003-	Society for Epidemiologic Research, Member

Awards and Honors:

1989-93	Dean's List of Scholastic Excellence, Tufts University, Medford, MA
2003	"Plasma Antioxidants and Risk of Breast Cancer." The Society for Epidemiologic Research Annual Meeting. 3rd prize award for poster presentation.

