Increased Fiber Intake Decreases Premenopausal Breast Cancer Risk

Kathleen K. Harnden, MD, Kimberly L. Blackwell, MD

There is growing interest in the relationship between dietary habits and cancer. Dietary fibers are a complex group of oligosaccharides, polysaccharides, resistant starch, and resistant dextrins. There is longstanding evidence that dietary fibers may reduce circulating estrogen levels through changes in the gut microbiome and increased excretion of estrogens in the gastrointestinal tract. Soluble fibers are believed to decrease intestinal cholesterol absorption, and there is emerging evidence that cholesterol byproducts may have estrogenic effects.[1] Fiber intake would be an easily modifiable risk factor to reduce the development of breast cancer.

Until recently, there have been no studies showing a clear relationship between dietary fiber and breast cancer risk. In addition, there has been no significant evaluation of the short- and long-term impact of fiber intake during breast development in the adolescent years. However, in recent months, several new studies have suggested a protective effect of fiber in the risk of breast cancer.[2–4]

Farvid et al[5] evaluated >44 000 women in the ongoing NHSII (Nurse's Health Study II) prospective cohort study and found that increasing adolescent and early adulthood fiber intake was associated with significantly lower risk of invasive breast cancer. The women reporting the highest quintile of fiber intake had an impressively lower risk of breast cancer compared with the lowest quintile (relative risk, 0.75), and this finding was stronger in premenopausal breast cancer (relative risk, 0.68). However, the women were surveyed about their adolescent diet when they were in their 30s and 40s. Although the investigators discuss the validation of the dietary survey, the recollection of dietary habits more than a decade earlier must be questioned. They used rigorous methodology to attempt to control for confounding factors, and although there may be confounding dietary or lifestyle factors also contributing to these findings, the associations are interesting and deserve further study. In particular, the association between dietary fiber and weight must be examined prospectively to understand the clinical impact of the authors' findings. It is reasonable for pediatricians to encourage a high-fiber diet and include decreasing breast cancer risk as one of the potential benefits.

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