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ORIGINAL RESEARCH COMMUNICATION

# Dietary pattern in association with squamous cell carcinoma of the skin: a prospective study[1,2,3]

Torukiri I Ibiebele, Jolieke C van der Pols, Maria Celia Hughes, Geoffrey C Marks, Gail M Williams and Adèle C Green

[1] From the Cancer and Population Studies Group, Queensland Institute of Medical Research, Brisbane, Australia (TII, JCvdP, MCH, and ACG), and the School of Population Health, University of Queensland, Brisbane, Australia (JCvdP, GCM, and GMW)

Background: The role of diet in the development of skin cancer is inconclusive, and the effect of the combined consumption of foods has never been reported.

Objective: We prospectively investigated the association between dietary patterns and cutaneous basal cell (BCC) and squamous cell (SCC) carcinoma.

Design: Principal components analysis of 38 food groups was used to identify dietary patterns in 1360 adults aged 25–75 y who participated in a community-based skin cancer study in Nambour, Australia, between 1992 and 2002. We obtained baseline information about diet, skin color, and sun exposure factors. Multivariate-adjusted relative risks (RRs) for BCC and SCC tumors were estimated by using negative binomial regression modeling.

Results: Two major dietary patterns were identified: a meat and fat pattern and a vegetable and fruit pattern. The meat and fat pattern was positively associated with development of SCC tumors (RR = 1.83; 95% CI: 1.00, 3.37; *P* for trend = 0.05) after adjustment for confounders and even more strongly associated in participants with a skin cancer history (RR = 3.77; 95% CI: 1.65, 8.63; *P* for trend = 0.002) when the third and first tertiles were compared. A higher consumption of the vegetable and fruit dietary pattern appeared to decrease SCC tumor risk by 54% (*P* for trend = 0.02), but this protective effect was mostly explained by the association with green leafy vegetables. There was no association between the dietary patterns and BCC tumors.

Conclusion: A dietary pattern characterized by high meat and fat intakes increases SCC tumor risk, particularly in persons with a skin cancer history.

Key Words: Dietary patterns • skin cancer • squamous cell carcinoma risk • basal cell carcinoma risk • principal components analysis • food-frequency questionnaire