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B-072 - Prospective Association Between Dietary Folate Intake And Skin Cancer Risk: Results From The SU.VI.MAX Cohort

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Purpose:

The role of folate in skin carcinogenesis is unclear, with experimental data suggesting potentially protective but also deleterious effects. Our main objective was to investigate the prospective association between dietary folate intake and risks of skin cancer (overall), nonmelanoma skin cancer (NMSC), and basal cell carcinoma (BCC). As an exploratory analysis, we also investigated the prospective association between erythrocyte folate concentration and skin cancer risk.

Methods:

In this study, we included 5880 participants in the Supplémentation en Vitamines et Minéraux Antioxydants (SU.VI.MAX) cohort (follow-up: 1994–2007) who completed at least six 24-h dietary records during the first 2 y of the study. Associations between sex-specific tertiles of dietary and erythrocyte folate and skin cancer risk were assessed by using multivariate Cox proportional hazards models.

Results:

After a median follow-up of 12.6y, 144 incident skin cancers were diagnosed. Dietary folate intake was associated with increased risk of overall skin cancer ($HR_{T3vs.T1}=1.79$ (1.07-2.99); $P\text{-trend}=0.03$), NMSC ($HR_{T3vs.T1}=1.85$ (1.06-3.23); $P\text{-trend}=0.03$), and BCC ($HR_{T3vs.T1}=1.78$ (0.98-3.24); $P\text{-trend}=0.05$). This association was observed in women (corresponding $P\text{-trend}=0.007$, 0.009, and 0.009, respectively) but not in men. $P\text{-interaction}$ values between tertiles of dietary folate intake and sex were 0.04, 0.02, and 0.02 for overall skin cancer, NMSC, and BCC, respectively. Erythrocyte folate concentration also was directly associated with increased risk of skin cancer (overall, NMSC and BCC).

Conclusions:

This prospective study suggests an association between dietary folate intake and erythrocyte folate concentration and increased risk of overall skin cancer, NMSC, and BCC. These results are in line with 2 previous large prospective studies on BCC and with mechanistic data suggesting a potentially deleterious effect of folate in carcinogenesis.

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