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Abstract

Hormonal and reproductive factors and incidence of basal cell carcinoma in a population-based cohort

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Estrogens have photosensitizing properties, but few prospective studies have examined the relationship between hormonal and reproductive factors and incidence of basal cell carcinoma (BCC) in women. Previous findings have been inconsistent, particularly in relation to parity and use of oral contraceptives (OCs) and menopausal hormone therapy (MHT). Given the heterogeneity in the literature, we sought to examine the association between hormonal and reproductive factors and BCC risk in a cohort of women (n=23,879) enrolled in the QSkin Study in 2011. The baseline survey included questions about use of OCs and MHT, age at menarche, menopausal status, age at menopause and parity. We restricted our analysis to white women with no past history of treatments for skin cancer and less than 6 treatments for actinic keratoses (n=11,204) and used Cox proportional hazards models to estimate the hazards ratio associated with each potential hormonal/reproductive factor and first histologically confirmed BCC, while taking account of the potentially confounding influence of sun exposure history, phenotypic characteristics, body mass index and smoking history. During a median follow-up duration of 2.95 years, 352 women developed BCC. In preliminary analyses, amongst post-menopausal women, ever use of MHT at baseline was associated with an increased risk of developing BCC compared to never users (adjusted HR1.4; 95% CI 1.1-1.9), but risk did not differ by duration of use. We found no association between parity, age at menarche, age at menopause or use of OCs and BCC incidence. Future work will examine whether MHT use is associated with an increased risk of a second primary BCC.