**Materials and Methods**

#### 2.1 Study participants

This prospective study comprised KTRs enrolled in the Skin Tumours in Allograft Recipients (STAR) study. The study has been described elsewhere [16]; briefly, KTRs were recruited from the Princess Alexandra Hospital, Queensland’s kidney transplant centre, from November 2012 to June 2014 and followed until June 30, 2016. Participants were aged ≥18 years, and followed for at least 1 year after transplantation. Only KTRs deemed to be at high risk of skin cancer due to fair skin type, a past history, age ≥40 years, or immunosuppressed ≥10 were included, with exclusion of KTRs with Fitzpatrick skin type IV–VI [16]. KTRs were ineligible if they were unable to provide consent, had received systemic retinoid therapy or field treatments in the last 6 months, or had concomitant major illness. Ethical approval was obtained from 2 institutional Human Research Ethics Committees. All participants provided written informed consent.

A baseline questionnaire was used to determine personal and demographic factors, including place of birth, and standard skin cancer risk factors, namely skin phototype, sun exposure, and protection behaviours, and number of skin cancers excised in the past, as well as alcohol use, smoking status, and frequency of skin checks. Medical records were reviewed to ascertain transplantation history.

#### 2.2 Dietary assessment

Dietary intake was assessed using a semi-quantitative food frequency questionnaire (FFQ) at baseline that consisted of 60 food items. This was based on a validated Australian version of the Nurses’ Health Study 129-item FFQ [17]. Food items included 14 dairy products, 7 vegetables, 17 meat, fish, and seafood, 9 breads and cereals, and 13 sweets and snacks. Participants estimated how often they consumed food items of common portion size in the previous 12 months, with responses ranging from “never” to “4 times a day or more.” Responses were converted to a daily intake (serves/day). Information on alcohol consumption of wine, beer, and spirits in the previous 12 months were collected in a separate questionnaire.

#### 2.3 Keratinocyte cancer assessment

Participants underwent whole-body skin examinations by dermatologically trained physicians at recruitment, and after 12, and 24 months. Clinically diagnosed SCCs and BCCs were referred to general practitioners or dermatologists for management and confirmatory histopathology. Skin cancers treated between surveys were monitored by 3-monthly phone calls to participants, and participants carried treatment cards for their treating doctor to provide details. Records from state and local pathology laboratories were also regularly checked to capture all new histologically confirmed skin cancers.

#### 2.4 Statistical Analysis

Food and beverage items were collapsed into 26 predefined groups based on nutrient profiles or culinary usage [13]. We used the frequency of consumption of 5 inflammatory food groups, and 4 anti-inflammatory food groups to calculate a variant of the EDIP score referred to as the ‘modified-EDIP score’ (Supplemental Material A) as not all original EDIP components were available [13]. Modified-EDIP scores were assigned to ranked deciles (ten equal groups). Relative risks of SCC and BCC were calculated for each decile, with the lowest decile serving as the reference. These relative risks were graphically displayed to observe any sudden changes in relative risks that would delineate a cutoff point, as well as to identify nonlinear relationships between modified-EDIP and skin cancer risk. The ranked deciles were then collapsed into 3 groups: low, intermediate, and high.

Outcomes were incidence of SCC and BCC expressed in terms of 81) incidence of SCC or BCC tumours developing in the time period 90 days after baseline to the end of follow-up referred as tumour-based analysis, and (2) incidence of persons affected by a new SCC or BCC referred as person-based analysis. Tumour-based relative risks (RR) and 95% confidence intervals (CIs) were calculated with negative binomial regression with person-years of follow-up as offset (counted until date of withdrawal from the study, date of death, or June 30, 2016, whichever came first). For person-based analysis, generalised linear models specifying Poisson distributions with a robust error variance and person-year of follow-up as the offset were used to calculate RRs with 95% CIs. SAS® software version 9.4 was used for analyses.

The base model was adjusted for known confounders age and sex. Directed acyclic graphs were used to inform potential confounding factors, and assessed variables were: place of birth, education, skin colour, history of painful sunburns, smoking status, history of skin cancer excision, frequency of skin checks, and total years of immunosuppression [18]. Variables were included in the final model if the risk estimate was changed by at least 10% [19]. The variables included for the final models were age, sex, education, and skin cancer excision history for SCC, and age, sex, and skin cancer excision history for BCC.