



EPIDEMIOLOGY

## ASSOCIATION BETWEEN DIETARY PATTERNS AND KERATINOCYTE CANCERS IN ORGAN TRANSPLANT RECIPIENTS

Emily Shao<sup>(1)</sup> - Kyoko Miura<sup>(2)</sup> - Adele Green<sup>(2)</sup>

University Of Queensland, Faculty Of Medicine, Brisbane, Australia<sup>(1)</sup> - Qimr Berghofer Medical Research Institute, Population Health, Brisbane, Australia<sup>(2)</sup>

**Background:** Organ transplant recipients (OTRs) are at increased risk of keratinocyte cancer (KC) due to immunosuppression and sun exposure. Skin carcinogenesis involves inflammation, and foods whose components have inflammatory properties may promote KC risk.

**Objective:** To investigate the association between pro-inflammatory diets and KC in OTRs.

**Methods:** Kidney, liver, and lung transplant recipients with stable grafts who were at especially high risk of skin cancer were recruited from transplant centres in Brisbane between 2012–2014 and followed-up until August 2016. Dietary intake was assessed using a food frequency questionnaire and responses were used to calculate Empirical Dietary Inflammatory Pattern (EDIP) scores. Scores were divided into ranked thirds with higher scores indicating more pro-inflammatory diets. Outcomes were incident BCC and SCC tumours. Relative risk (RR) with 95% confidence intervals (CI) were calculated using negative binomial regression.

**Results:** 530 OTRs were included (258 kidney, 90 lung, 182 liver,). The SCC tumour incidence rates were 544, 564, and 375 SCCs developed per 1000 person-years for kidney, lung and liver OTRs, respectively. For BCCs, this was 434, 459, and 234 tumours per 1000.

Preliminary analyses show that kidney OTRs with highest vs. lowest EDIP have an increased SCC risk [adjusted RR=2.34, 95% CI 1.37–4.00, p-trend =0.003]. The highest EDIP tertile showed a modestly increased BCC risk but it was not significant. Modest increases in SCC and BCC risk were seen in lung and liver OTRs though none were statistically significant.

**Conclusion:** Preliminary results suggest inflammatory diets may increase SCC risk among OTRs, most evident among kidney OTRs.

