

ABSTRACT

OBJECTIVES:

To describe the epidemiology and an aetiological model of ocular surface squamous neoplasia (OSSN) in Africa.

METHODS:

Systematic and non-systematic review methods were used. Incidence was obtained from the International Agency for Research on Cancer. We searched PubMed, EMBASE, Web of Science and the reference lists of articles retrieved. Meta-analyses were conducted using a fixed-effects model for HIV and cigarette smoking and random effects for human papilloma virus (HPV).

RESULTS:

The incidence of OSSN is highest in the Southern Hemisphere (16° South), with the highest age-standardised rate (ASR) reported from Zimbabwe (3.4 and 3.0 cases/year/100 000 population for males and females, respectively). The mean ASR worldwide is 0.18 and 0.08 cases/year/100 000 among males and females, respectively. The risk increases with exposure to direct daylight (2-4 h, OR = 1.7, 95% CI: 1.2-2.4 and ≥ 5 h OR = 1.8, 95% CI: 1.1-3.1) and outdoor occupations (OR = 1.7, 95% CI: 1.1-2.6). Meta-analysis also shows a strong association with HIV (6 studies: OR = 6.17, 95% CI: 4.83-7.89) and HPV (7 studies: OR = 2.64, 95% CI: 1.27-5.49) but not cigarette smoking (2 studies: OR = 1.40, 95% CI: 0.94-2.09). The effect of atopy, xeroderma pigmentosa and vitamin A deficiency is unclear.

CONCLUSIONS:

Africa has the highest incidence of OSSN in the world, where males and females are equally affected, unlike other continents where male disease predominates. African women probably have increased risk due to their higher prevalence of HIV and HPV infections. As the survival of HIV-infected people increases, and given no evidence that anti-retroviral therapy (ART) reduces the risk of OSSN, the incidence of OSSN may increase in coming years.