

**18. TRENDS IN NONMELANOMA SKIN CANCER MORTALITY IN THE UNITED STATES, 1969 THROUGH 2000**

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**Objectives:** The purpose of this study was to investigate mortality from nonmelanoma skin cancer (NMSC) in the United States and to assess trends over time. Particular emphasis was placed on the subgroup of NMSC arising on genital skin.

**Methods:** A population-based study of NMSC mortality in the United States from 1969 to 2000 based on records from the U.S. National Center for Health Statistics and the Centers for Disease Control mortality databases.

**Results:** More than 75,000 deaths in the U.S. were attributed to NMSC from 1969 to 2000. The age-adjusted U.S. mortality rate for NMSC arising on nongenital skin was 0.72 (/100,000/yr); the rate among men was twice that among women. Nongenital NMSC mortality among white men exceeded that of black men by more than a factor of two, whereas rates for white and black women were similar. Nongenital NMSC mortality declined over time in all subgroups examined. Rates among men declined steadily over time excepting the years 1981 to 1986 during which a sharp but temporary increase was noted, the cause of which was likely artifactual. The decline in women was greatest during the 1970s; subsequently rates have held steady. Corresponding mortality rates for NMSC arising on genital skin (penis, scrotum, vulva) were 0.30 in men and 0.55 in women. In contrast to nongenital NMSC, mortality from genital NMSC was two-fold greater among black men than among white men; again rates for white and black women were similar. Genital NMSC mortality declined over time in all subgroups examined, but most demonstrably in black men. The decline among women was greatest during the 1970s after which rates held relatively steady.

**Conclusions:** Mortality from NMSC in the United States is significant, and NMSC arising on genital skin contributes a large proportion of deaths overall. The dermatology community should place greater emphasis on reducing mortality from genital NMSC while continuing to stress reduction of excess sun exposure. Education of health care practitioners in related medical specialties on the risk of mortality from genital NMSC is also warranted.

**19. TANNING FACILITY YOUTH ACCESS AND SKIN CANCER INFORMATION PRACTICES IN FOUR US STATES**

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**Objectives:** Ultraviolet radiation (UV) tanning bed use is associated with skin cancer. While 47 US states do not set age limits for tanning patrons, three states do: Texas (age 13), Illinois (age 14), and Wisconsin (age 16). This study set out to describe youth access, frequency of youth discount pricing incentives, and skin cancer risk information provided by tanning facilities in 4 states with different UV tanning age restrictions.

**Methods:** The study utilized an anonymous telephone cross-sectional survey to 400 randomly selected tanning facilities in Colorado (CO), Texas (TX), Illinois (IL), and Wisconsin (WI). The Colorado Multiple Institutional Review Board approved the protocol. Main outcome measures were percentage of facility operators: 1) permitting indoor UV tanning in violation of state regulations for a potential 12-year-old patron and 15-year-old patron, 2) offering youth discounts, and 3) stating that UV tanning is not a risk factor for skin cancer.

**Results:** For 12-year-olds, 18% of facilities in Colorado, 23% in Texas, 74% in Illinois, and 89% in Wisconsin had an operator report that they would not permit indoor UV tanning. For 15-year-olds, 44% of facilities had an operator report that they would permit youth access violating current regulations (TX 83% (access without guardian accompaniment), Illinois 20% (access without guardian consent), Wisconsin 17% (underage access)). Overall 15% of operators offered youth discounts (CO 11%, TX 23%, IL 14%, WI 11%), and 24% denied that UV tanning was a skin cancer risk factor (CO 31%, TX 28%, IL 13%, WI 23%).

**Conclusions:** UV tanning youth access correlated with the strength of youth access regulation and was least restricted in Colorado, a state without youth access regulations, and in Texas, the state with the lowest and most recently enacting age regulation (2002). Facilities offering youth discounts and denying that UV tanning increases skin cancer risk were detected in all four states: a discovery that suggests targets for further tanning industry regulatory measures.

**20. CLINICAL RISK FACTORS FOR SKIN CANCER IN A COHORT OF KIDNEY AND HEART TRANSPLANT RECIPIENTS: A CASE CONTROL STUDY**

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**Introduction:** Organ transplant recipients are at high risk of skin cancer. Multiple risk factors (iatrogenic immunosuppression, follow-up time, age at transplantation, etc.) have been extensively reported in the literature. Only a few data about Mediterranean and Italian people are available.

**Methods:** A case-control study was developed. From 1997 all the renal (RTR) and heart (HTR) transplant patients with histologically proven skin cancer entered into the present study. Each patient (case) was matched with two transplanted patients with the same type of organ, sex, and follow-up time, but free of skin cancer (controls). After informed consent, a trained dermatologist made a full skin examination and a detailed interview about some possible risk factors (sun exposure for job or leisure, holidays, personal or family history of cancer etc.). T test for independent samples and  $\chi^2$  test were used for statistical analysis. Multivariate analysis will be made with conditioned logistic regression. Collection of cases and controls is in progress; we present only preliminary data.

**Results:** We collected 229 patients (189 RTR, 40 HTR). They were 91 cases (76M, 15F) and 138 controls (118 M, 20 F). mean age (years) at the visit was 56.9 SD 10.1 (60.8 SD 8.1 cases, 54.3 SD 10.3 controls). Age at transplantation was 47.8 SD 10.5 for cases and 41.0 SD 12.9 for controls ( $p < 0.0001$ ). Mean follow up time (years) was 14.4 SD 9.1. Mean follow up time (years) at the diagnosis of the cancer was 7.4 SD 5.4 (range 0-21.7 years). 41/91 patients had a second cancer after 2.1 SD 2.5 years from the first one and 19/41 had a third cancer. Patients with cancer were more prone to have fair skin ( $p < 0.02$ ), elastosis ( $p < 0.00001$ ) actinic keratoses anywhere ( $p < 0.001$ ), on the face ( $p < 0.008$ ) and on the arms ( $p < 0.005$ ). No differences between cases and controls were found about hair colour ( $p = 0.373$ ) eye colour ( $p = 0.444$ ), solar lentigo ( $p = 0.284$ ), number of nevi on the upper arm ( $p = 0.515$ ).

**Discussion:** Age at transplantation fair skin, actinic keratoses and elastosis are important risk factors for skin cancer among organ transplant recipients. Patients with a first cancer are at high risk for sub-sequent cancers. Further data will be obtained after ending data collection and multivariate analysis. An accurate clinical follow up of all transplanted patient is needed.