MESOAMERICAN NEPHROPATHY IN COSTA RICA: PRE-EXISTING HEALTH CONDITIONS AND JOB CHOICE

SOLAR ULTRAVIOLET RADIATION (UVR) EXPOSURE LEVELS AND SUN PROTECTION BEHAVIOURS IN OUTDOOR WORKERS IN BRITISH COLUMBIA, CANADA

Oral presentation

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Objectives To characterise geographical distribution and time trends of chronic kidney disease (CKD) mortality in the context of the epidemic of Mesoamerican nephropathy (MeN), likely related to occupational heat stress and other, unknown, factors.

Method Vital statistics (1970–2012) provided deaths from CKD and unspecified renal failure. Data of four censuses were extrapolated to derive person-years by sex and 10-year age groups for the seven provinces and 81 counties. SMRs were compared for three time periods between provinces and between counties, with national rates as reference. To assess time trends, age-specific and age-standardised mortality rates were computed for 5-year periods.

Results During 1970–2012, 3843 men and 2452 women died from CKD. In the Guanacaste province, the SMR for 1997–2012 was four-fold in men and two-fold in women. In Guanacaste, CKD mortality increased from the mid-1970s in men, and mid-1980s in women. Age-standardised rates per 100,000 men aged ≥30 increased from 5.8 in the early seventies to 75.0 in 2007–2012, compared to 5.9 to 16.2 in the rest of Costa Rica. For women, rates increased from 4.5 to 20.7 in Guanacaste versus 4.2 to 9.7 in the rest of the country. Within Guanacaste, there was marked spatial variation in mortality between counties, with patterns being consistent between time periods but different for men and women.

Conclusions Guanacaste is a heterogeneous CKD “hot spot,” affecting mostly men, but to lesser extent also women. CKD seemed high already four decades ago in the province. These findings are pertinent for etiologic research.

Objectives Bricklayers may be exposed to several lung carcinogens, including crystalline silica and asbestos. Previous studies reported an excess of lung cancer among these workers. We examined lung cancer risk among bricklayers within SYNERGY, a large international pooled analysis of case-control studies on lung cancer and the joint effects of occupational carcinogens (http://SYNERGY.iarc.fr).

Method The pooled dataset included 15 608 cases and 18 531 controls from 22 centres in Europe, Canada, Hong Kong, and New Zealand. For men ever employed as bricklayers we estimated odds ratios (ORs) and 95% confidence intervals (CIs) adjusted for study centre, age, lifetime cigarette smoking history, and employment in occupations with exposures to known or suspected lung carcinogens.

Results We found 1322 cases and 1004 controls who had ever worked as bricklayers (OR: 1.35; 95% CI: 1.22–1.49). There was a clear positive trend with length of employment (P < 0.0001). The relative risk was higher for squamous (OR: 1.44, 95% CI: 1.28–1.63, 578 cases) and small cell carcinomas (OR: 1.60, 95% CI: 1.36–1.87, 248 cases), than for adenocarcinoma (OR: 1.14, 95% CI: 0.98–1.32, 289 cases) (P-value for homogeneity: 0.0007). ORs were still elevated after additional adjustment for education and in analyses using blue collar workers as referents.

Conclusions This study provided additional evidence of increased lung cancer risk in bricklayers. Although non-causal explanations cannot be completely ruled out, the association is plausible in view of the potential for exposure to several carcinogens, notably crystalline silica and to a lesser extent asbestos.