

P181 **CHRONIC KIDNEY DISEASE AMONG AGRICULTURAL WORKERS IN EL SALVADOR**

Sandra Peraza,<sup>1</sup> Catharina Wesseling,<sup>2</sup> Aurora Aragon,<sup>3</sup> Ricardo Leiva,<sup>4</sup> Ramon Garcia Trabanino,<sup>5</sup> Cecilia Torres,<sup>3</sup> Kristina Jakobsson,<sup>6</sup> Carl-Gustav Elinder,<sup>7</sup> Christer Hogstedt<sup>8</sup> <sup>1</sup>University of El Salvador, San Salvador, El Salvador; <sup>2</sup>National University, Heredia, Costa Rica; <sup>3</sup>National Autonomous University of Nicaragua, Leon, Nicaragua; <sup>4</sup>National Hospital Rosales, San Salvador, El Salvador; <sup>5</sup>Hemodialysis Clinic, San Salvador, El Salvador; <sup>6</sup>University of Uppsala, Uppsala, Sweden; <sup>7</sup>Karolinska Institutet, Stockholm, Sweden; <sup>8</sup>National Institute of Public Health, Östersund, Sweden

10.1136/oemed-2011-100382.395

**Objectives** Chronic kidney disease (CKD) unrelated to conventional risk factors occurs in Central America, mostly in younger, male agricultural workers. We explored residence and occupation at different altitudes in El Salvador as surrogates for heat stress.

**Methods** In a population-based survey we determined prevalences of elevated serum creatinine (S-Cr) ( $\geq 1.2$  and  $0.9$  mg/dl in males and females), CKD  $\geq$  stage 3 (glomerular filtration rate  $< 60$  ml/min/1.73 m<sup>2</sup>) and proteinuria among occupational subgroups of the populations age 20–60 of five Salvadorian communities, together 256 men and 408 women (participation 73%). Logistic regressions assessed associations between kidney function and agricultural occupations by altitude and sex, adjusting for conventional risk factors.

**Results** Among men of the coastal communities with current sugarcane and past cotton production, 30% had elevated S-Cr and 19% CKD  $\geq$  stage 3 compared to 4% and 1% in the communities above 500 m with sugarcane, coffee and service-oriented economies. Prevalence of elevated S-Cr among male sugarcane and cotton workers in the coastal lowlands with extremely hard and hot working conditions was 33% vs 4% among sugarcane farmers at 500 m (approximately 4°C lower) and 4% among subsistence farmers. Women followed a weaker but similar pattern. For 10-year increments in coastal sugarcane or cotton plantation work, the occurrence of elevated S-Cr tripled among men and doubled among women. Proteinuria was infrequent and of low grade indicating tubulointerstitial nephropathy.

**Conclusions** Agricultural work on lowland sugarcane and cotton plantations was associated with CKD among men and women, possibly related to strenuous and hot work with repeated dehydration.