



Statement of the CENCAM Board and the Scientific Committee of the 2nd International Workshop on Mesoamerican Nephropathy regarding currently known facts about the epidemic

The 2nd International Workshop on the Epidemic of Mesoamerican Nephropathy (MeN) was held in San José, Costa Rica, November 18-20, 2015, three years after the first workshop. A total of 75 experts from 18 countries discussed the evidence regarding possible causes of MeN, pathophysiologic pathways, and similarities and differences with other epidemics of chronic kidney disease unrelated to traditional CKD causes of diabetes and hypertension (CKDu) in Sri Lanka and other parts of the world. The discussion also addressed methods to assess different aspects of the epidemic, ranging from etiologic questions to interventions aimed at prevention. A comprehensive technical report is in preparation, but an interim statement of some key conclusions about MeN is justified considering the urgency of taking action to address this fatal disease.

There was a consensus that MeN has predominantly an occupational component. This conclusion is based on multiple studies with various designs by different research groups in several countries. There is growing evidence for a causal role of strenuous work, heat and insufficient rehydration as risk factors in MeN, and progress has been made towards clarifying pathophysiological pathways for heat stress leading to chronic kidney disease. Intervention studies to reduce heat stress and dehydration in high risk workers are warranted, and one major study has been initiated. However, it is quite possible that other factors also play a role, perhaps in combination with heat stress and dehydration. Exposures to specific agrochemicals or other yet-unknown toxins need further evaluation as possible risk factors related to disease initiation or progression. Based on studies conducted to date, no evidence exists for exposure to heavy metals or alcohol as sole or important risk factors for MeN. The roles of infectious agents, NSAIDs, genetic susceptibility, gene-environment interactions and social determinants as contributors to disease onset and progression also need to be clarified.

Social and economic drivers of the disease, including working conditions, unemployment and precarious employment, and poverty in general need to be analyzed both in community and workplace studies. The need for alternative, improved work environments, particularly concerning heat conditions and agrochemical exposures, was underlined as was the need for improved healthcare for the victims of the epidemic.

Coordinated regional approaches to study prevalence, etiology, and to evaluate interventions were given high priority. Emphasis was also given to a global focus on CKDu, for understanding of the similarities and differences of CKDu epidemics in different geographic areas. In particular, there is a need for standardized studies (including simple prevalence studies) to enable valid comparisons between countries and regions. This is an important step in ascertaining whether the epidemic of CKDu in Central America that we have called MeN is pathophysiologically similar to what is occurring in other parts of the world. In turn, a better understanding of the extent to which CKDu is occurring in multiple locations would provide important information regarding the likely causes of this fatal disease.