

## Prize Poster 2

**Peripheral Arterial Disease (PAD) in patients with type 2 diabetes (T2DM) in South India - The urban vs. rural divide:** Bhavana Sosale, Y J V Reddy, M V Nagbhusana, S R Aravind, PES Institute of Medical Sciences and Research, Kuppam; Diacon Hospital, Bangalore; India

Background and aims: PAD is a marker for macrovascular disease and a risk factor for lower limb amputations, in patients with diabetes. The extent and impact of PAD in the rural population in India has not been well studied. The aim of this study was to screen for asymptomatic PAD using ankle brachial index (ABI) in order to characterize and compare risk factors associated with it and to look for the presence of IHD (Ischemic Heart Disease) in rural and urban populations. Methodology: This was an observational, cross-sectional study involving type 2 diabetic patients attending the diabetes clinic in an urban and rural hospital, in South India. 200 rural (R) and 400 urban (U) patients were screened for PAD over one year. An ABI  $\leq 0.9$  or  $>1.3$  was considered abnormal (2011 American Heart Association guidelines). Patients with known PAD and or claudication were excluded. Anthropometric measurements and investigations were carried out. Risk factors were analyzed, P values, odds ratio (OR) were calculated. Results: 17.8% of patients had an ABI suggestive of PAD [R 20% vs. U 16.8%]. 63.6% were male. Known risk factors of PAD were identified and included dyslipidemia {85% [(R 92.5% vs. U 80.6%) OR 1.61]}, obesity {84.1% [(R 85% vs. U 83.6%) OR 0.75]}, hypertension {59.8% [(R 47.5% vs. U 67.2%) OR 1.26]} and age $>50$  yrs {64.5% [(R 55% vs. U 70%) OR 1.24]}. Except for Smoking {22.4% [(R 32.5% vs. U 16.4%) OR 1.03]}, none of the other risk factors were different between groups. Mean duration of DM was  $7.95 \pm 7.50$  {(R  $4.66 \pm 5.22$  vs. U  $9.61 \pm 7.93$ )  $P < 0.001$ }. ECG changes consistent with IHD were found in 25.3% of patients with PAD [(R 20% vs. U 28.3%) OR 3.06, CI 1.81-5.18,  $p=0.001$ ]. Conclusion: Our study demonstrates that one in six asymptomatic South Indians with T2DM have PAD. One in four patients with PAD had ECG changes of IHD which was statistically significant. Based on the odds ratio, the rural patients with PAD had two and a half times higher risk of IHD, even though there was no statistically significant difference in cardiovascular risk factors, age, sex and mean HBA1c in both groups. Higher rates of smoking may in part explain the greater prevalence of IHD in the rural patients. Increased prevalence of PAD in rural patients with a statistically significant lower duration of DM is a cause for concern. Asymptomatic nature of the disease may be the responsible factor. This study stresses the need for screening patients with diabetes and PAD for underlying IHD. If replicated in larger studies, our data will have important implications for screening, evaluation, prevention and public health measures.