

Diabetic Foot and Peripheral Arterial Disease – The Worst Combination!

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Both diabetic foot and peripheral arterial disease (PAD) are recognized complications of diabetes mellitus (DM). The estimated global prevalence of diabetic foot is 6.3%¹, whereas the global prevalence of PAD in adults is 5.56%². On the other hand, at least 20% of symptomatic patients with PAD have DM³, whereas the prevalence of PAD was 8.52% in DM patients in a more recent study carried out coastal Karnataka of India⁴. In the aetiopathogenesis of diabetic foot, though not essential, PAD may play important role. Also, presence of PAD enhances the severity, and makes the management of diabetic foot more complicated in clinical practice.

In Bangladesh, the prevalence of DM is on the rise with the overall age-adjusted prevalence of DM and prediabetes 9.7% and 22.4%, respectively.⁵ The exact prevalence of diabetic foot is not known, however, in a small study in Bangladesh Institute of Research & Rehabilitation in Diabetes, Endocrine & Metabolic Disorders (BIRDEM), 75% of the 130 patients suffered co-morbidity, including diabetic foot in 4%.⁶ The prevalence of PAD among the diabetic foot in Bangladeshi population is unknown. Nobi et al. in their study involving 72 diabetic patients attending the BIRDEM Hospital sought the prevalence of PAD in diabetic foot infections and its effect on management outcome. They have found the prevalence of PAD, as determined by ankle brachial index (ABI) and pulse oximetry, to be 34.7%. Their study suffers from small sample size, however, highlights the population-specific scenario to some extent. If we look at the other parts of the world, diabetic foot and the related complications continue to be a major public health issue.⁷ In a study carried out in Africa, Ikem et al. used ABI to define PAD among 74 type 2 DM patients; the prevalence of PAD was 76.4% and 13.4% in patients with and without foot ulcer respectively.⁸ This higher prevalence of PAD in comparison to the present study, may be due to the fact that, only patients with foot ulcers, who are likely to have the worst diabetic foot, were included in that study. The situation is alarming in South Asia as well. In a study from North India, Bajaj et al. found the prevalence of PAD among diabetic foot ulcer to be 30%.⁹ Nobi et al.

in the present study found older age and tobacco use to have strong correlation with PAD in diabetic foot infections. This is logical and at the same time alarming because in the setting of epidemiological transition from communicable disease to non-communicable disease in Bangladesh, life expectancy is increasing, people are becoming older, adopting sedentary lifestyle, and continuing to consume tobacco.

Diabetic foot infections and ulcers may be of neuropathic type exclusively, or mixed neuropathic-ischaemic type because of the presence of significant PAD in the latter. Presence of PAD tends to affect the course of illness negatively, increase the severity of disease, delay response to treatment, increase healing time, and raise the rate of amputation. Also, hospital stay is lengthened. The consequence of all these impose significant burden on healthcare services and economy, besides excess morbidity and mortality on individual level. So, timely diagnosis of concomitant PAD in diabetic foot patient subsets is of crucial importance. The present study may actually act as a stimulus for further well-designed studies to elucidate this practically neglected issue in future.

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