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Effect of smoking on Peripheral Neuropathy and low ABPI

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Background and aims: It is believed that smoking contributes to impaired blood supply and marked sensory neuropathy in diabetes patients.

Aim of this study was to find if a connection existed among patients who smoked (or had ever smoked) and who had neuropathy and/or PVD.

Methods: 258 consecutive (146 men, 112 women) newly diagnosed type 2 diabetes patients were screened during education sessions over a four-year period for evidence of peripheral neuropathy (neurothesiometer testing), and PVD (dopplers for ABPI). Smoking status was ascertained and all had HbA1c performed.

Results: 44% (113) smoked (males-85, females-28). Normal results were obtained in 121(47%) patients [54(45%) smokers, 67(55%) non-smokers]. Neuropathy alone was present in 63(24%) patients. [25(22%) smokers and 38(26%) non-smokers]. The next highest abnormality was a high ABPI (indicative of arterial calcification) in 35(14%) patients [14(40%) smokers, 21(60%) non-smokers]. Peripheral Neuropathy and high ABPI was seen in 15(6%) patients [9(60%) smokers, 6(40%) non-smokers]. Peripheral neuropathy and a low ABPI occurred in 11 (4%) patients [8(72%) smokers, 3(28%) non smokers] but a low ABPI alone was seen in only 6(2%) patients [3(50%) smokers, 3(50%) non smokers].

Conclusions: These results show no evidence of a relationship between smoking and neuropathy and/or PVD. Main abnormality was that at diagnosis 24% patients already had peripheral neuropathy followed by 14% showing evidence of arterial calcification. 6% of patients had evidence of peripheral vascular disease.

Recommendation: The high percentage of peripheral neuropathy highlights the need for foot education for all patients with type 2 diabetes from the time of diagnosis.