

## Carotid Artery Disease in Type 2 Diabetes Patients

**TO THE EDITOR:** I read with interest the article on carotid artery disease in diabetic patient (Vol 22(4); 133-4). I compliment the author for evaluating this subject on which a lot of research is going on these days. However, I want to make the following observations:

1. The author has concluded in the discussion that “2D Triplex Scanning is a sensitive and specific method of detecting carotid artery disease in type 2 diabetes patients”. This appears erroneous, since sensitivity and specificity can be determined only by comparison with another test (which acts as the gold standard), which has not been done in this article. However, I agree with the author that this technique has high pick up rates for carotid artery disease.
2. The author has concluded that the “duration of diabetes” and the “age of patients” have a positive correlation with “incidence of macrovascular disease” in type 2 diabetes. However, it is not clear as to how the relation with age of patients was derived. It would have been better if each age group was segregated into various “duration of diabetes” subgroups; and then a comparison made between rates of macrovascular disease in different age groups with similar duration of diabetes. This would have avoided the “duration of diabetes” from acting as a confounding factor in the correlation between “age of patients” and “macrovascular complications”; since with increasing “age of patients” the “diabetes duration” is also likely to increase and hence, there are chances that the positive association between “age of patients” and “macrovascular complications” may be a spurious association.
3. The author has presented in his discussion the high rate of nephropathy in patients with carotid vascular disease as compared to patients without carotid vascular disease (89% vs 65%). However, there is no mention of the prevalence of similar complications in patients without carotid vascular disease in the “results” section of the article. It would have been very interesting to have a comparison of the diabetic complications in patients without carotid vascular disease, similar to the findings in Table 3 (diabetic complications in patients with carotid vascular disease) of the article.

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**AUTHORS REPLY:** I thank Dr. Anupam Prakash for showing interest in the above article published in the International Journal of Diabetes in Developing Countries' 2002 Vol. 22 page 133 and for his request for clarifications.

1. I agree that I should have compared with contrast angiography to categorically state that Triplex Scanning is a better sensitive and specific method for detecting carotid artery disease. However, my emphasis was on the sensitivity and specificity of the method as compared to the 'ankle branchial index'. Contrast angiography as the gold standard diagnostic tool is already stated in the article.
2. I perfectly agree with the statement that ideally I should have segregated the various age groups into subgroups on the basis of duration of diabetes to establish that the age of the patient had a positive correlation with the prevalence of carotid artery disease. But if you look at Table 3 in the article, one can see the consistently increased prevalence as the age increases and moreover we have seen carotid artery disease in many elderly patients with short duration of diabetes. Ideally, a control group of patients matched for age and sex without diabetes mellitus should be studied and this work is going on at the moment in our institution.
3. The high rate of nephropathy seen in our patients is because the majority of the patients (61%) came to us 5 years after the onset of diabetes, 30% of patients came after 10 years and most of them were in an uncontrolled state. We did study the prevalence of other complications in patients with carotid artery disease and without carotid artery disease and the data is given in the following table 1. This is not given in the article due to want of space.

**Table 1: Correlation between Diabetic Complications in Patients with and without Carotid Artery Disease**

Complications	Patients with Carotid Artery Disease (55 pts.)	Patients without Carotid Artery Disease (245 pts.)
	%	%
Nephropathy	89	65
Hypertension	58	33
Retinopathy	25	17
CAD	7	11
Elevated LDL (> 150mg%)	53	45
Elevated Triglycerides (> 200mg%)	23	27

**Dr. K. P. Paulose**