

Regularity of follow-up, glycemic burden, and risk of microvascular complications in patients with type 2 diabetes: a 9-year follow-up study : Reply to Dr. Tasci et al.

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Dear Sir,

We wish to thank Tasci and colleagues for their interest in our paper published in *Acta Diabetologica* [1, 2]. We would like to emphasize that this was not a prospective cohort study but a retrospective study based on electronic medical records. This is a serious limitation of the study and we have emphasized this in the paper. However, in a sense, it is also the strength of the study, because it is a ‘real life study’ and therefore reflects the situation ‘as is where is’ in a clinic which is valuable data. In a prospective randomized clinical trial, the type of participants is likely to be very different and hence the results obtained may not be generalizable to the community at large, whereas in a study of this type with all its pitfalls, it still reflects the actual ‘real world’ scenario. Having said this, data from studies such as this do have a lot of loop holes as pointed out by the authors and indeed, as pointed out in our paper as well. Moreover, we wish to clarify that the two studies which Tasci and colleagues refer to were not based on the same cohort, but from a separate population-based study, called the Chennai Urban Population Study (CUPS), whereas the present work was a clinic-based study from the electronic records of patients attending our center. Hence the two study populations are completely different and cannot be compared.

We do not agree with the authors that the findings are opposite of what would be expected. We would submit that it would be what one would expect. The paper mainly deals

with glycated hemoglobin and glycemic burden. It is well known that glycemic control as assessed by glycated hemoglobin is closely correlated to microvascular complications of diabetes, and indeed in our study, the differences with respect to retinopathy and nephropathy turned out to be significant. The reason why neuropathy did not turn out to be significant could be because neuropathy was assessed by a rather insensitive technique—biothesiometry, which is the test which we do routinely in all our clinic patients and this test only measures large fiber neuropathy. Moreover, with long duration of diabetes and older age, most people with diabetes develop some form of neuropathy.

Tasci and colleagues mention that the findings with respect to coronary artery disease and peripheral vascular disease were not discussed in our paper. This is not true, as we have discussed this in paragraph 3 of the discussion. With respect to coronary artery disease, the UKPDS [3] and STENO 2 [4] studies have shown that it is not the glycemic control alone, but a combination of blood pressure control and lipid control in addition to glycemic control which helps to prevent coronary artery disease. It is possible that our patients with irregular follow-up had continued their statin and blood pressure medicines, resulting in the differences in coronary artery disease being nonsignificant between the regular follow-up and irregular follow-up groups.

Finally, the prevalence of peripheral vascular disease is known to be quite low in our population. This has been shown in reference No. 3 quoted by the authors as well as in several other studies from India [5]. The reason for the low prevalence of peripheral artery disease is not known, but one of the explanations is that it is because of the lower age at onset type 2 diabetes in our population. The overall lower prevalence of PVD may be reason why the differences in the incidence of peripheral vascular disease did not come out significant between the two groups.

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Informed consent This study does not involve human or animal subjects. No informed consent needs to be obtained.

References

1. Anjana RM, Shanthirani CS, Unnikrishnan R, Mugilan P, Amutha A, Nair HD, Subhashini S, Venkatesan U, Ali MK, Ranjani H, Mohan V (2014) Regularity of follow-up, glycemic burden, and risk of microvascular complications in patients with type 2 diabetes: a 9-year follow-up study. *Acta Diabetol*. doi:[10.1007/s00592-014-0701-0](https://doi.org/10.1007/s00592-014-0701-0)
2. Tasci I, Basgoz BB, Saglam K (2015) Glycemic control and the risk of microvascular complications in people with diabetes mellitus. *Acta Diabetol*. doi:[10.1007/s00592-015-0778-0](https://doi.org/10.1007/s00592-015-0778-0)
3. Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 38. UK Prospective Diabetes Study (UKPDS) Group (1998) *BMJ* 317(7160):703–713
4. Gaede P, Vedel P, Larsen N, Jensen GV, Parving HH, Pedersen O (2003) Multifactorial intervention and cardiovascular disease in patients with type 2 diabetes. *N Engl J Med* 348(5):383–393
5. Pradeepa R, Chella S, Surendar J, Indulekha K, Anjana RM, Mohan V (2014) Prevalence of peripheral vascular disease and its association with carotid intima-media thickness and arterial stiffness in type 2 diabetes: the Chennai Urban Rural Epidemiology Study (CURES 111). *Diabetes Vasc Dis Res* 11(3):190–200