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REPLY: Longitudinal Strain and Type 1 Diabetes Mellitus: Are We on the Wrong Track?



We thank Drs. Tadic and Cuspidi for their interest in our paper (1). Drs. Tadic and Cuspidi comment that global longitudinal strain (GLS) in the present study is somewhat lower than expected for a healthy middle-aged population; for example, like in the reports of Kocabay et al. (2) and Yingchocharoen et al. (3). First, the reason for including a control population in the present study is precisely to compare results with a healthy, normal population, rather than with estimates from the published reports, knowing that absolute GLS values differ between reports. Second, the Kocabay et al. (2) study included 247 subjects, and the meta-analysis from Yingchocharoen et al. (3) reported GLS estimates compiled from 28 different studies with a total of 2,597 individuals; in that study, individual study populations ranged from 13 individuals to 673 individuals. In comparison, the present population of 1,263 individuals (1,065 patients with type 1 diabetes mellitus [T1DM] and 198 control subjects) is almost one-half the size of the total participant number in the meta-analysis where reported mean GLS values were between -15.9% and -22.1%. We report that the control subjects have a mean GLS of -18.8% and T1DM patients a GLS of -18.3%, which we find to be reasonable and within expected limits.

Also, Drs. Tadic and Cuspidi discuss whether or not medical therapy in T1DM can improve left ventricular structure and function, and they reference a series of randomized controlled trials on this subject. The present cross-sectional study was not designed to address this matter, but we would suspect that cardiac function would be worse in patients from the Thousand & 1 Study had they not received cardioprotective and renoprotective medications via their usual clinical control at the outpatient clinic at Steno Diabetes Center. Drs. Tadic and Cuspidi further suggest investigating the association between medication and LV structure and function in T1DM more closely. We are thankful for this suggestion and look forward to doing this in future studies.

Magnus Thorsten Jensen, MD, PhD*

*Department of Cardiology
Copenhagen University Hospital Gentofte
Niels Andersens Vej 65
2900 Hellerup
Denmark

E-mail: magnustjensen@gmail.com

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Please note: Dr. Jensen has reported that he has no relationships relevant to the contents of this paper to disclose.

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