Response to review article "Type 1 diabetes and osteoporosis: Review of literature"

Sir,

We read the review article on type 1 diabetes (T1DM) and osteoporosis with great interest. As the article mentioned our group has the only published literature as regards bone mineral density (BMD) in T1DM in India.[1] Though our study was conducted at a center in Western India, Mumbai being a cosmopolitan city and referral center for all over India our study population practically had members from most of the states.

Another important aspect that we noted among our study population was that the BMD as well as the bone mineral content was remarkable low in patients with celiac autoimmunity (CA) and T1DM as compared with patients T1DM without CA and we got a significantly high prevalence of CA (12.7%) which matches with reports from other parts of India.[2] Despite such a high prevalence CA is T1DM, the screening rates for same are poor.

Poor glycemic control and low insulin like growth factor-1 levels (which also is partly glycemic control as well as nutrition dependent) with normal growth hormone levels (basal as well as stimulated when indicated) were also associated with poor BMD in T1DM. This also perhaps explains why we got low BMD in T1DM as compared with control population, a finding not universally replicated across the globe (due to perhaps poor nutrition). It also underlines that measures for improvement of better glycemic control in T1DM such as encouraging more frequent monitoring, subsidizing glucostrips, insulin pumps and glucose monitoring systems and emphasizing the concept of basal and bolus or flex regimens in order to achieve better glycemic control.[3]

Interpretation of BMD/bone mineral content for bone area in pediatric diseased population especially due to effect on stature and pubertal status is also difficult. The popular Molgaard approach does not consider puberty. The model which we had used was Warner model which gives predictive equations considering the effect of age, sex, puberstatus, and antropometric variables and may be used in diseased population.[4,5]

We would like to reiterate that at least from our study experience timely screening of CA as well as measures to improve glycemic control apart from improving nutrition and physical activity may help in better bone health in T1DM.

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