Prevalence of Frailty in Middle-Aged Diabetic Population of Ahmedabad: A Cross-Sectional Study

Sir,

Frailty is a clinical state in which persons exposed to one or more stressors are at an increased rate for adverse health events.[1] It is characterized by diminished strength, endurance, and physiological reserve across the neuromuscular, metabolic, and immune systems.[2] Diabetes accelerates the aging process and could provide an early pathophysiologic environment for frailty. The disease is also associated with a decrease in leisure activities, a decline in quality of life, and an increase in the requirement of healthcare. It has been proposed that diabetes in aging patients may be associated with frailty at an earlier stage than in non-diabetic counterparts. There are very few data regarding the relationship among frailty, diabetes, and long-term mortality in the middle-age population[3] With the number of diabetics increasing in India and Gujarat being the leader in India, we aimed to find the prevalence of frailty in middle-aged patients with diabetes mellitus of Ahmedabad and find the correlation between severity of diabetes (HbA1c), Chronicity of diabetes (years since diagnosis), BMI and Frailty.
A cross-sectional survey study was conducted at the endocrine department of SVP hospital, Ahmedabad. Sixty middle-aged patients meeting the inclusion criteria were screened for frailty with five items FRAIL questionnaire.[4] Middle-aged males and females aged between 49 and 65 years, diagnosed with diabetes by endocrine/medicine department for ≥4 years were included. Patients with other known causes of frailty and patients with severe mobility issues were excluded. Spearman’s correlation was used to find the correlation.

There were 33 males, 27 females with mean age 56.3 ± 5.2 years, mean HbA1c was 7.9 ± 1.7%, years since disease (YSD) 7.3 ± 6.1 years, FRAIL score 3 ± 1.5. Thirty-seven (61.6%) subjects were found frail, 19 (31.6%) pre-frail, 4 (6.6%) healthy. Frailty was found to be highly correlated with the severity of diabetes (HbA1c) but showed no correlation with chronicity of diabetes and the BMI of the individuals. S. Chode’s study found that prevalence of frailty was higher in middle-aged diabetics than non-diabetic middle-aged people and diabetics with high BMI were likely to be frail and were less physically active. Pathophysiology of diabetes is commonly focused on impaired insulin secretion, overload of gluconeogenesis, and insulin resistance; newer insights broaden this etiologic horizon. Immunologic factors that create a chronic state of low-grade inflammation – “inflammaging” – have an influence on both the aging process and diabetes.[5] Frailty is a dynamic process.

A person’s frailty categorization may change depending on a change of circumstances such as hospitalization and recovery from an acute illness. Also, recovery from severe hypoglycemia or profound hyperglycemia may also result in improvement in frailty scores. Therefore, frailty scores need to be reviewed from time to time. Frailty can be targeted for treatment; therefore, early identification of frailty is important. Overall fitness of diabetics is of utmost importance to decrease the impact or avoid diabetic complications. Early multimodal interventions based on physical exercise and nutrition education should be investigated and implemented with a prompt diagnosis of frailty. Future studies should aim at a detailed assessment of frailty in diabetics.

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Conflicts of interest
There are no conflicts of interest.

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