



## Trends in Hyperglycemic Crisis Hospitalizations and in- and out-of-Hospital Mortality in the Last Decade Based on Korean National Health Insurance Claims Data (*Endocrinol Metab* 2019;34:275-81, Ji Hong You et al.)

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I read with great interest the study by You et al. [1] in the most recent issue of *Endocrinology and Metabolism*. The authors aimed to evaluate trends in hyperglycemic crisis hospitalizations and in- and out-of-hospital mortality in Korea, and to predict future trends, by using the National Health Insurance Service database to analyze the epidemiologic state of hyperglycemic crisis during a recent 10-year period (from 2004 to 2013).

Hyperglycemic crisis is a serious, acute metabolic complication of diabetes that can be life-threatening. Although the prevalence of diabetes-associated complications has tended to decrease with recent advances in diabetes treatment, hyperglycemic crisis remains an important cause of morbidity and mortality among patients with diabetes. However, scant epidemiological data are available regarding cases of hyperglycemic crisis in Korea.

The authors reported that the hospitalization rate and mortality rate of patients with hyperglycemic crisis decreased from 2004 to 2013, while the annual number of claims cases gradually increased. These findings are compatible with those of recent studies that showed a decrease in hospital mortality, but a significant increase in the number of hospitalizations for hyperglycemic crisis [2,3].

Overall, this finding raises the question of the mechanisms

underlying the decline in hyperglycemic crisis hospitalization and mortality per 1,000 diabetes cases over the last decade in Korea. Since hyperglycemic crisis is largely preventable if recognized and treated early, it would be worthwhile to elucidate the potential factors that influenced this trend. Presumably, medication nonadherence, a lack of knowledge about diabetes, barriers to accessing health care, the growing cost of medications, and economic burdens could be major factors that make hyperglycemic crisis more likely. As a first step, a further analysis of socioeconomic characteristics and regional differences in the data studied by You et al. [1] could be considered as a way to identify effective strategies for preventing hyperglycemic crisis.

Another issue is that based on the available data, it is difficult to determine whether the observed trends were due to a decrease in diabetic ketoacidosis (DKA), hyperosmolar hyperglycemic state (HHS), or both, because International Classification of Diseases (ICD) codes do not enable HHS to be distinguished from DKA. Furthermore, the predictions of future trends presented by You et al. [1] could not be normalized for the increased prevalence of diabetes. Therefore, it is difficult to establish whether the anticipated increase in the annual claim rate for hyperglycemic crisis is due to an overall increase in the preva-

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lence of diabetes.

Nevertheless, the study by You et al. [1] contributes to the advancement of our current knowledge on hyperglycemic crisis in Korea. Based on their study, it would be desirable to plan future studies and suitable long-term healthcare policies, including proper patient education and timely access to the health care system, to prevent hyperglycemic crisis.

### CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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