



Prognostic and assessment value of hyperglycemia and glycosylated hemoglobin in critical patients

Z.L. Zhang¹, X.M. Che², Z.H. Bai¹, W.J. Bu¹, L. Bai¹ and H.H. Pei¹

¹Emergency Department, Second Affiliated Hospital, Xi'an Jiaotong University, Xi'an, Shaanxi Province, China

²Department of General Surgery, First Affiliated Hospital, Xi'an Jiaotong University, Xi'an, Shaanxi Province, China

Corresponding author: H.H. Pei
E-mail: honghongpei@yeah.net

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ABSTRACT. Hyperglycemia is common in critical patients and high blood glucose levels have a negative effect on their prognosis. The aim of this study was to investigate the effect of hyperglycemia and glycosylated hemoglobin (GHb) in critical patients. A total of 648 critical patients were enrolled in the study and received a random blood glucose test when they entered the emergency department. If blood glucose was more than 11.1 mM, a GHb test was followed within 24 h. All patients were followed up for 28 days. According to diabetes mellitus (DM) history, GHb value, and outcome of follow-up, patients were divided into different groups, and mortality rates were calculated, respectively. Hyperglycemia was found in 67.44% (437/648) of patients, and 51.49% (225/437) and 48.51% (212/437) had normal and elevated GHb levels, respectively. At the end of the follow-up period, 14 of the normal GHb patients and 32 of the elevated GHb patients died (6.22 and 15.09%, respectively). In the normal GHb group, 53 had a DM history, 23 were newly diagnosed with DM, and 149 had hospital-

related hyperglycemia (HRH); the mortality rates were 11.32% (6/53), 8.70% (2/23), and 4.03% (6/149), respectively. In the elevated GHb group, 114 had a DM history, 83 were newly diagnosed with DM, and 15 had HRH; the mortality rates were 13.16% (15/114), 19.27% (16/83), and 6.67% (1/15), respectively. Hyperglycemia and GHb might play important roles in the prognosis and assessment for critical patients, and the prognosis would vary according to the different causes of hyperglycemia.

Key words: Hyperglycemia; Glycosylated hemoglobin; Hospital-related hyperglycemia; Diabetes mellitus