



Reply to the Letter by M.S. Raghuraman Regarding “Perioperative Management of Diabetes Mellitus: Novel Approaches”

Nadine E. Palermo¹ · Rajesh Garg²

Published online: 30 August 2019

© Springer Science+Business Media, LLC, part of Springer Nature 2019

Dear Editor,

We thank Dr. Raghuraman for his comments on our article [1] and appreciate the opportunity to clarify our statement about the postoperative glycemic goals.

We agree that perioperative glycemic control needs more attention from all medical professionals and we look forward to future studies in this area. We also agree that many of the perioperative glycemic control measures can be implemented by physicians without special training in diabetes.

Regarding the risk of hypoglycemia with glucose targets 100–180 mg/dl on the general floors, we want to clarify that our suggestion is based on several pieces of data, the American Diabetes Association (ADA) guidelines, and our own experience. In fact, the ADA clinical practice guidelines suggest a target glucose range of 80–180 mg/dl in the perioperative period [2]. We agree that treatment targets should be individualized and in some patients, higher glucose levels may be appropriate [3]. However, it is highly unlikely that the risk of hypoglycemia will be increased if the lower end of the target range is 100 instead of 110 or 140 mg/dl. In a study of postoperative glycemic control comparing basal-bolus insulin with sliding scale insulin regimen on the general floors, where fasting and premeal glucose targets were 100–140 mg/dL, severe hypoglycemia occurred in only 4 out of 104 patients in the basal-bolus group and 0 of 107 patients in the sliding scale group [4]. We suggest surveillance of any

glycemic control program to ensure that hypoglycemia rate does not go up after implementation of the program. If rate of hypoglycemia increases, the target glucose level may be adjusted to higher levels after ruling out other causes like incorrect implementation of protocols or inadequate blood glucose testing.

References

1. Palermo NE, Garg R. Perioperative Management of diabetes mellitus: novel approaches. *Curr Diab Rep.* 2019;19(4):14. <https://doi.org/10.1007/s11892-019-1132-7>.
2. American Diabetes Association. Diabetes Care in the Hospital. *Diabetes Care.* 2016;39(Supplement 1):S99–S104. <https://doi.org/10.2337/dc16-S016>.
3. Umpierrez GE, Hellman R, Korytkowski MT, Kosiborod M, Maynard GA, Montori VM, et al. Management of hyperglycemia in hospitalized patients in non-critical care setting: an endocrine society clinical practice guideline. *J Clin Endocrinol Metab.* 2012;97(1):16–38. <https://doi.org/10.1210/jc.2011-2098>.
4. Umpierrez GE, Smiley D, Jacobs S, Peng L, Temponi A, Mulligan P, et al. Randomized study of basal-bolus insulin therapy in the inpatient management of patients with type 2 diabetes undergoing general surgery (RABBIT 2 surgery). *Diabetes Care.* 2011;34(2):256–61. <https://doi.org/10.2337/dc10-1407>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

✉ Rajesh Garg
rgarg@miami.edu

Nadine E. Palermo
npalermo@bwh.harvard.edu

¹ Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, Harvard Medical School, 221 Longwood Avenue, Suite 381, Boston, MA 02115, USA

² Comprehensive Diabetes Center, Division of Endocrinology, Diabetes and Metabolism, University of Miami, Miller School of Medicine, 5555 Ponce de Leon Blvd, Coral Gables, FL 33145, USA