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Is Tight Perioperative Control of Diabetes Warranted?

To the Editor:—The recent work by Doctor Walts and colleagues¹ questioning current practices of perioperative diabetic management is indeed a superb contribution to the medical literature. Yet, the authors of that article and the accompanying editorial² seem to take the issue beyond what their or other current data suggest.

Such statements as, "Perhaps the most exciting recommendation made by these investigators is the proposal for an endocrine intensive care unit for diabetic patients for preoperative and postoperative management until oral intake is resumed. . . . Complications of hyperglycemia such as infection, poor healing, and negative nitrogen balance would be minimized and control of the hyperglycemia and diabetes mellitus promoted,"² imply that data currently exist that show that short term (perioperative 1–2 days) tight control *vs.* current methods of diabetic management results in fewer wound infections, better wound healing, fewer transplant rejections, *etc.* Do such data exist in humans (that compares, in a random fashion, normoglycemic diabetics with usually managed diabetics)? The second implication is that there is no risk and minimum cost in such tight control. Perhaps there isn't much risk if one uses an on line mechanical

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In reply:—Doctor Roizen's comments are appreciated. It is indeed true that there are no hard data to confirm that short-term control of hyperglycemia is beneficial to the diabetic patient. However, it does not follow from this premise that short-term control of hyperglycemia should not be attempted in the management of the diabetic patient undergoing major surgery. There is evidence to show that hyperglycemia affects leukocyte migration and chemotaxis. Certainly a decrease in these leukocyte functions could predispose to infection. The negative nitrogen balance of patients undergoing major surgery is well-known and covered in standard textbooks of medicine and surgery. For these reasons, I feel my editorial comments were, and still are, appropriate.

Doctor Roizen's concern regarding the risk of tightly controlled blood glucose is laudable but unwarranted. With careful monitoring of the blood glucose, it is possible to correct blood glucose levels that go below 60 mg/dl readily. Even without sophisticated equipment for analysis, such as the biostator or some other monitoring device, it is possible to monitor the blood glucose by capillary blood glucose determination in the operating

pancreas, but in the study by Walts *et al.* 6 per cent of patients in the "titration" group (2 of 33) had blood glucose levels below 35 mg/dl (32 and 25 mg/dl).

Shouldn't the hypothesis that short-term (perioperative) control of diabetes results in better wound healing, fewer transplant rejections, fewer wound infections, *etc.*, with minimal morbidity or increase in cost (it may decrease cost by fewer hospital days), be subjected to scientific scrutiny in a few "endocrine intensive care units" before we're forced to rush every hospital to having an endocrine intensive care unit?

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REFERENCES

1. Walts LF, Miller J, Davidson MB, et al: Perioperative management of diabetes mellitus. *ANESTHESIOLOGY* 55:104–109, 1981
2. Palumbo PJ: Blood glucose control during surgery. *ANESTHESIOLOGY* 55:94–95, 1981

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room, in the home, and in the field. We are instructing all of our patients in the home monitoring of blood glucose for long-term, improved control of diabetes mellitus.

The benefit of cardiac and respiratory intensive care units are better known to Doctor Roizen. If such intensive care units are of benefit, it seems logical to assume that an endocrine intensive care unit would also be beneficial. Certainly close monitoring of patients in an intensive care unit, whether for diabetes mellitus or other conditions, should be more beneficial than distributing such patients throughout the wards of a hospital.

Finally, instead of finding reasons why not to do anything for diabetics, may I humbly suggest that all physicians continue to look for ways to improve short-term and long-term control of diabetes mellitus. It may do some good; I doubt it will do any harm.

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