Pengaruh Carbohydrate Loading terhadap Kadar Gula Darah Perioperatif dan Resistensi Insulin pada Operasi Elektif Pasien dengan Diabetes Melitus Tipe 2 = The Effects of Preoperative Carbohydrate Loading towards Perioperative Blood Glucose and Insulin Resistance in Type 2 Diabetes Mellitus Patients Underwent Elective Surgery

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Abstrak

Rekomendasi pemberian cairan karbohidrat sebelum operasi pada populasi diabetes melitus tipe 2 (DMT2) masih lemah. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian CHO terhadap profil gula darah perioperatif dan resistensi insulin pada populasi DMT2. Penelitian ini merupakan uji klinis acak tersamar ganda yang melibatkan 44 pasien dewasa dengan DMT2 yang menjalani operasi elektif kategori minor. Subjek dibagi menjadi kelompok kontrol dan kelompok CHO. Pencatatan terhadap kadar gula darah (GD) pada empat titik waktu pengukuran, yaitu prabedah, intrabedah, pascabedah, dan 1 hari pascabedah, serta kadar insulin sebelum dan sesudah operasi. Komplikasi yang direkam meliputi kejadian mual, muntah, aspirasi, infeksi, serta pemajangan lama rawat. Kelompok CHO memiliki profil gula darah yang lebih stabil dibandingkan kelompok kontrol (p=0,003) terutama 1 hari pascabedah dengan median lebih rendah (137,5 (79–248) vs. 147,0 (88-–228)). Kelompok kontrol memiliki fluktuasi gula darah signifikan. Resistensi insulin kelompok CHO menurun signifikan dari nilai prabedah (p=0,01). Insiden hiperglikemi sebesar 65% pada kelompok CHO dibanding 45% pada kontrol dengan insiden hipoglikemia 10% pada kelompok kontrol. Tidak ada komplikasi dalam penelitian ini. Pasien DMT2 yang mendapat CHO memiliki profil GD lebih stabil dan penurunan resistensi insulin pascabedah.

.....Preoperative carbohydrate loading (CHO) recommendations in type 2 diabetes (T2DM) patients are still controversial. This study aimed to evaluate the effects of CHO towards perioperative blood glucose (BG) and insulin resistance in T2DM underwent elective surgery. Forty-four patients were allocated randomly to control group and CHO group. Blood glucose was examined at four time points: preloading, intraoperative, end of surgery and 1-day post-surgery. Insulin was examined at preloading and end of surgery. Complications recorded including nausea, vomiting, aspiration, infection and prolong hospital stay. The CHO group had a more stable BG compared to control (p=0,003) notably at 1-day post-surgery with lower BG median in CHO (137,5 (79–248) vs. 147,0 (88-–228) while control group had significant BG fluctuation. Insulin resistance trend between group were not statistically significant (p=0,34), however insulin resistance in CHO group was significantly lower compared to preloading (p=0,01). About 65% subjects in CHO group had hyperglycemia compared to 45% in control group. There were 10% subjects with hypoglycemia in control group. There were no complications observed during this study. T2DM patients receiving CHO had more stable perioperative BG profile and could lower insulin resistance due to surgery.