

Perbandingan volume residual lambung pasca pemberian maltodekstrin 12,5% dengan cairan kombinasi glukosa dan protein: penelitian pada peserta didik Anestesiologi dan Terapi Intensif Fakultas Kedokteran Universitas Indonesia = Comparison of gastric residual volume after administration of 12,5% maltodextrin with a combination of glucose and protein solution in Anesthesiology and Intensive Care Residents of FKUI-RSCM

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Abstrak

Pendahuluan : Pemberian cairan jernih prabedah dapat menguntungkan pasien dalam masa perioperatif. Konsumsi cairan jernih maltodekstrin 12,5% dua jam prabedah dapat dilakukan terutama dalam ERAS ( Enhanced Recovery After Surgery). Penambahan protein dalam cairan jernih memberikan luaran yang lebih baik. Meskipun secara teoritis protein dapat memperlambat pengosongan lambung, perlu diketahui apakah cairan jernih yang mengandung kombinasi glukosa dan protein dapat mengakibatkan GRV 1,5 ml/kgBB ( risiko tinggi aspirasi) dua jam pasca konsumsi. Penelitian ini bertujuan untuk membandingkan GRV pasca pemberian cairan maltodekstrin 12,5% dengan cairan kombinasi glukosa dan protein.

Metode: Penelitian uji klinis silang acak tersamar ini melibatkan 56 relawan berusia 25-40 tahun ( peserta didik Departemen Anestesiologi dan Terapi Intensif FKUI-RSCM). Peserta berkesempatan untuk mengkonsumsi dua jenis minuman prabedah, cairan maltodekstrin 12,5% dan cairan kombinasi glukosa dan protein (Fresubin Jucy®), dengan volume masing- masing 400 ml. Volume lambung diukur dua kali, setelah puasa selama minimal 6 jam, (GRV baseline), dan dua jam pasca konsumsi cairan. Peserta diberikan waktu washout dua minggu diantara kedua intervensi.

Hasil: Tidak terdapat perbedaan bermakna pada GRV baseline sebelum pemberian kedua cairan intervensi (  $p > 0,05$ ). Terdapat perbedaan yang signifikan pada GRV dua jam pasca konsumsi maltodekstrin 12,5% dengan cairan kombinasi (  $p < 0,05$ ). Secara teori protein dapat meningkatkan produksi leptin, dan menekan produksi ghrelin sehingga memperlambat waktu pengosongan lambung. Selain itu, faktor-faktor lain seperti osmolalitas dan jumlah kalori juga dapat mempengaruhi perbedaan GRV setelah puasa.

Simpulan: Terdapat perbedaan signifikan pada GRV dua jam pasca pemberian cairan maltodekstrin 12,5% dengan cairan kombinasi glukosa dan protein.

.....Introduction: Preoperative clear fluid administration have known for giving positive impacts for patients undergoing surgery. Drinking clear fluids containing carbohydrate, is already being a routine and many innovation on optimizing its composition are also being increasingly variative, one of them by adding protein. Theoretically, protein can slow gastric emptying, increasing gastric residual volume which can increase pulmonary aspiration risk. This study aimed to compare gastric volume after administration of 12.5% maltodextrin solution to clear fluid containing glucose and protein.

Methods: This randomized, double-blinded, crossover clinical trial involving 56 trainee anesthetists aged 25-40 years. Each participant consume two types of preoperative clear drinks, 12.5% maltodextrin and clear fluid containing glucose and protein. Gastric volume was measured twice, once after fasting for at least 6 hours, and two hours after drinking fluid. Every participants were given a two-week washout period before

undergoing second intervention.

Results: No significant differences were found in the comparison of baseline gastric volume before intervention. Significant difference was found between gastric volume two hours after drinking maltodextrin compared to combination fluid (  $p,0,05$ ). This differences might be influenced by leptin increasing after drinking the combination fluid, along with the differences of fluid osmolarity and calories contained, affecting gastric emptying rate and residual volume. Conclusion: There was significant difference in gastric volume two hours after administration of 12.5% maltodextrin solution compared to combination of glucose and protein solution.