Roundup - March 2023

New this month in therapeutic carbohydrate restriction and metabolic health.

Metabolic (TCR intervention)

1. Battezzati, A., Foppiani, A., Leone, A., De Amicis, R., Spadafranca, A., Mari, A. and Bertoli, S. (2023) 'Acute Insulin Secretory Effects of a Classic Ketogenic Meal in Healthy Subjects: A Randomized Cross-Over Study', *Nutrients*, 15(5), p. 1119. Available at: https://doi.org/10.3390/nu15051119.
2. Dorans, K.S., Bazzano, L.A., Qi, L., He, H., Chen, C., Mills, K.T., Nguyen, B., OBrien, M., Uwaifo, G.I. and He, J. (2023) 'Abstract P142: Mediation of Effects of a Low-Carbohydrate Dietary Intervention on Hemoglobin A1c Through Weight: A Randomized Clinical Trial', *Circulation*, 147(Suppl_1), pp. AP142–AP142. Available at: https://doi.org/10.1161/circ.147.suppl_1.P142. ABSTRACT
3. Mantzouranis, E., Kakargia, E., Kakargias, F., Lazaros, G. and Tsioufis, K. (2023) 'The Impact of High Protein Diets on Cardiovascular Outcomes: A Systematic Review and Meta-Analysis of Prospective Cohort Studies', *Nutrients*, 15(6), p. 1372. Available at: https://doi.org/10.3390/nu15061372.
4. Matsuura, T.R., Puchalska, P., Crawford, P.A. and Kelly, D.P. (2023) 'Ketones and the Heart: Metabolic Principles and Therapeutic Implications', *Circulation Research*, 132(7), pp. 882–898. Available at: https://doi.org/10.1161/CIRCRESAHA.123.321872.
5. Noakes, T.D., Prins, P.J., Volek, J.S., D'Agostino, D.P. and Koutnik, A.P. (2023) 'Low carbohydrate high fat ketogenic diets on the exercise crossover point and glucose homeostasis', *Frontiers in Physiology*, 14. Available at: https://www.frontiersin.org/articles/10.3389/fphys.2023.1150265.
6. da Silva Schmitt, C., da Costa, C.M., Souto, J.C.S., Chiogna, L.M., de Albuquerque Santos, Z.E., Rhoden, E.L. and Neto, B.S. (2023) 'The effects of a low carbohydrate diet on erectile function and serum testosterone levels in hypogonadal men with metabolic syndrome: a randomized clinical trial', *BMC Endocrine Disorders*, 23(1), p. 30. Available at: https://doi.org/10.1186/s12902-023-01278-6.

Metabolic Syndrome and Insulin Resistance

1. DiNicolantonio, J.J. and O'Keefe, J.H. (2023) 'Sodium restriction and insulin resistance: A review of 23 clinical trials', *Journal of Insulin Resistance*, 6(1), p. 9. Available at: https://doi.org/10.4102/jir.v6i1.78.
2. Liu, Z. and Zhu, C. (2023) 'Causal relationship between insulin resistance and sarcopenia', *Diabetology & Metabolic Syndrome*, 15(1), p. 46. Available at: https://doi.org/10.1186/s13098-023-01022-z.
3. Màrmol, J.M., Carlsson, M., Raun, S.H., Grand, M.K., Sørensen, J., Lang Lehrskov, L., Richter, E.A., Norgaard, O. and Sylow, L. (2023) 'Insulin resistance in patients with cancer: a systematic review

and meta-analysis', *Acta Oncologica*, 0(0), pp. 1–8. Available at: https://doi.org/10.1080/0284186X.2023.2197124. ABSTRACT
4. Özbey-Yücel, Ü. and Uçar, A. (2023) 'The role of obesity, nutrition, and physical activity on tinnitus: A narrative review', *Obesity Medicine*, p. 100491. Available at: https://doi.org/10.1016/j.obmed.2023.100491.
5. Ozveren, A., Ridvanogullari Donger, M., Motor, S. and Bulut, G. (2023) 'The Close Relationship Between Metabolic Syndrome and Hormone Receptor-Positive Early-Stage Breast Cancer', *Integrative Cancer Therapies*, 22, p. 15347354231165938. Available at: https://doi.org/10.1177/15347354231165938.
6. Paquette M, Bernard S, Cariou B, Hegele RA, Genest J, Trinder M, Brunham LR, Béliard S, Baass A. Metabolic syndrome predicts cardiovascular risk and mortality in familial hypercholesterolemia. J Clin Lipidol. 2023 Mar 22:S1933-2874(23)00064-8. doi: 10.1016/j.jacl.2023.03.008. Epub ahead of print.

Neurology

1. Alsuwaidi, H.N., Ahmed, A.I., Alkorbi, H.A., Ali, S.M., Altarawneh, L.N., Uddin, S.I., Roueentan, S.R., Alhitmi, A.A., Djouhri, L. and Chivese, T. (2023) 'Association Between Metabolic Syndrome and Decline in Cognitive Function: A Cross-Sectional Study', *Diabetes, Metabolic Syndrome and Obesity*, 16, pp. 849–859. Available at: https://doi.org/10.2147/DMSO.S393282.
2. El-Shafie, A.M., Bahbah, W.A., Abd El Naby, S.A., Omar, Z.A., Basma, E.M., Hegazy, A.A.A. and El Zefzaf, H.M.S. (2023) 'Impact of two ketogenic diet types in refractory childhood epilepsy', *Pediatric Research*, pp. 1–12. Available at: https://doi.org/10.1038/s41390-023-02554-w. (note: neutral effect on lipids and positive for growth)
3. Martin, S.E., Kraft, C.S., Ziegler, T.R., Millson, E.C., Rishishwar, L. and Martin, G.S. (2023) 'The Role of Diet on the Gut Microbiome, Mood and Happiness', *medRxiv*, p. 2023.03.18.23287442. Available at: https://doi.org/10.1101/2023.03.18.23287442.
4. Oh, U., Woolbright, E., Lehner-Gulotta, D., Coleman, R., Conaway, M., Goldman, M.D. and Brenton, J.N. (2023) 'Serum neurofilament light chain in relapsing multiple sclerosis patients on a ketogenic diet', *Multiple Sclerosis and Related Disorders*, 73, p. 104670. Available at: https://doi.org/10.1016/j.msard.2023.104670. ABSTRACT
5. Smolensky, I.V., Zajac-Bakri, K., Gass, P. and Inta, D. (2023) 'Ketogenic diet for mood disorders from animal models to clinical application', *Journal of Neural Transmission* [Preprint]. Available at: https://doi.org/10.1007/s00702-023-02620-x.
6. Taoulost, S., Rasgon, N., Ferretti, C.J. and Hollander, E. (2023) 'The role of ketogenic therapy in developmental disorders', *Journal of Psychiatric Research*, 161, pp. 307–309. Available at: https://doi.org/10.1016/j.jpsychires.2023.03.025. ABSTRACT

Case studies

1. Chen, Y., Rong, S., Luo, H., Huang, B., Hu, F., Chen, M. and Li, C. (2023) 'Ketogenic diet attenuates refractory epilepsy of Harel-Yoon syndrome with ATAD3A variants: a case report and review of literature', *Pediatric Neurology* [Preprint] Available at: https://doi.org/10.1016/j.pediatrneurol.2023.03.003.
2. Rondanelli, M., Patelli, Z., Gasparri, C., Mansueto, F., Ferraris, C., Nichetti, M., Alalwan, T.A., Sajoux, I., Maugeri, R. and Perna, S. (2023) 'Very low calorie ketogenic diet and common rheumatic disorders: A case report', *World Journal of Clinical Cases*, 11(9), pp. 1985–1991. Available at: https://doi.org/10.12998/wjcc.v11.i9.1985.

Preclinical studies showing promise

1. Zhu, Z., Liu, D., Chen, R., Hu, W., Liao, H., Kiburg, K., Ha, J., He, S., Shang, X., Huang, Y., Wang, W., Yu, H., Yang, X. and He, M. (2023) 'The Association of Retinal age gap with metabolic syndrome and inflammation', *Journal of Diabetes*, 15(3), pp. 237–245. Available at: https://doi.org/10.1111/1753-0407.13364.
2. Zyla-Jackson, K., Walton, D.A., Plafker, K.S., Kovats, S., Georgescu, C., Brush, R.S., Tytanic, M., Agbaga, M.-P. and Plafker, S.M. (2023) 'Dietary protection against the visual and motor deficits induced by experimental autoimmune encephalomyelitis', *Frontiers in Neurology*, 14, p. 1113954. Available at: https://doi.org/10.3389/fneur.2023.1113954.