

Liver substrate metabolism in non-alcoholic fatty liver

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PROPOSITIONS

Belonging to the thesis

Liver substrate metabolism in non-alcoholic fatty liver: role of hepatic lipid composition and hepatic glycogen measured by MR- techniques

1. Proton magnetic resonance spectroscopy enables the non-invasive quantification of hepatic saturated, mono- and polyunsaturated fatty acid fractions in humans (*this thesis*)
2. Hepatic saturated fatty acid fraction reflects *de novo* lipogenesis and is a determinant of metabolic health (*this thesis*)
3. Acutely prolonging the overnight fast has no effect on hepatic glycogen content and overnight fat oxidation in individuals with non-alcoholic fatty liver (*this thesis*)
4. Reducing both glycemic index and saturated fatty acid content in a westernized diet for two weeks lowers intrahepatic lipids (*this thesis*)
5. Lowering saturated fat in the liver and promoting fluctuations in liver glycogen by diet, exercise or medication are promising strategies to improve health of people with NAFL and related diseases (*this thesis: impact chapter*)
6. Changes in health policies are needed to decrease the incidence of NAFLD, and regulatory agencies may need to consider NAFLD per se as a treatment indication (*Samuel & Shulman, Cell Metabolism 2017*)
7. To tackle the diabetes problem, we should not accept a prediabetic state but should actually try to convert prediabetes to a normal glucose state (*Adapted from Tuso, Perm J. 2014*)
8. Supportive environments and communities are fundamental in shaping people's choices, by making the choice of healthier foods and regular physical activity the easiest choice, and therefore preventing overweight and obesity (*WHO 2021*)
9. With an enthusiastic team you can achieve almost anything (*Tahir Shah*)

Kay Roumans, 15 September 2021