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Short-term oral exposure to white wine transiently lowers serum free fatty acids.
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Abstract
In humans little is known as to whether oral sensory stimulation with alcohol elicits cephalic phase responses. This study sought to determine whether oral alcohol exposure, in the form of white wine, provokes cephalic phase responses in normal-weight and overweight women. In a semi-randomized, crossover trial, eleven normal-weight and eleven overweight women sham-fed, after an overnight fast under three separate conditions 4 weeks apart, cake (750kJ), 25cL white wine (750kJ; approximately 26g alcohol) and 25cL water. Blood was drawn prior to and for 30min after two 3-min episodes of modified sham-feeding (MSF). Blood samples were analyzed for free fatty acid (FFA), triglyceride, glucose, pancreatic polypeptide (PP), insulin and alcohol concentrations. Incremental area under the curves (IAUC) of FFA concentrations differed significantly between the three treatments but not between BMI categories. After MSF with wine, FFA concentrations dropped to a minimum of 77+/-3% of baseline concentrations at t=12+/-2min after baseline and returned to baseline after approximately 30min, whereas after MSF with cake and water, FFA concentrations gradually increased. In conclusion, short-term oral white wine exposure substantially and temporarily decreases FFA concentrations suggesting a cephalic phase response of alcohol. This effect occurred regardless of BMI.

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