

Tea and coffee components change blood parameters at rest

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The rich composition of tea and coffee affects the metabolism in the body. These caffeinated drinks are rich in methylxanthine alkaloids, mainly caffeine, theophylline and theobromine. There are many reports about the caffeine impact on the body under stress, but nearly no reports on the tea and coffee alkaloids effect at rest. We set ourselves the goal of determining whether there is a significant impact of these beverages on blood testosterone, cortisol and epinephrine concentrations, non-esterified fatty acids (NEFA, also called FFA) and glucose in the young men at rest. The work carried out on 21 healthy young male volunteers that took strong tea or coffee at empty stomach. Those who took a single dose of tea, were divided into two groups: the first group comprised those whose cortisol levels increased after experience with tea, the second group – whose cortisol decreased. The third group comprised persons who took a single dose of strong grain coffee. Cortisol, adrenaline, and testosterone levels were determined as a hormonal panel. To assess the ergogenic response to changes in hormones concentration, glucose and FFA levels in the blood were determined. Statistical analysis was performed using the Mann-Whitney method for non-parametric samples and the Wilcoxon test using the IBM SPSS Statics. According to our observations, fasting cortisol levels in systematically consuming caffeine-containing products are significantly higher than in others. Our investigation founds also that coffee causes a significant decrease in cortisol levels at rest, but tea consumption leads to a more pronounced decrease in the cortisol levels than coffee