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Stress-induced endocrine response and anxiety: The effects of comfort food

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It is known that access to high caloric food attenuates the stress response. The present work investigates whether the access to Chow enriched with glucose and fat, here referred as comfort food, alters behavioral, metabolic, and hormonal parameters of rats submitted to one daily session of foot-shock stress (FS), 3 days or to 14 days of chronic unpredictable mild stress (CUMS). Food intake, anxiety-like behaviors, and the serum concentrations of endocrine/metabolic markers were determined. Rats submitted to FS decreased the intake of commercial chow and kept unaltered the intake of comfort food; those submitted to CUMS decreased the intake of both diets. FS rats decreased anxiety-like behaviors and risk assessment during the elevated plus maze and open field tests. The opposite was observed for CUMS rats. These effects were independent of the type of food. Non-stressed rats ingesting comfort food decreased risk assessment as well. Both stress protocols increased the plasma level of cholesterol, glucose, and insulin. Triglycerides levels were reduced by FS and unaffected by CUMS. Comfort food increased glucose, triglycerides and leptin levels, with no effect on leptin. The stress induced increase in serum corticosterone was attenuated by comfort food. These data indicate that the combination of stress and comfort food, common aspects of modern life, may constitute a link among stress, feeding behaviour and anxiety. Financial support; FAPESP

Biography

Spadari-Bratfisch R C is a full Professor of the Bioscience Department at the Federal University of Sao Paulo (UNIFESP) where she also serves as Director of the Campus Baixada Santista. Her research on the peripheral mechanisms of the stress reaction has been published in many reputed journals always in collaboration with her graduated students. She is Referee and Reviewer of many scientific International journals and is serving as an editorial board member of the journal "Stress".

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