OMICS Group
Conferences
Accelerating Scientific Discovery

2nd International Conference on
Endocrinology

October 20-22, 2014   DoubleTree by Hilton Hotel Chicago-North Shore, USA

Role of oxytocin in energy metabolism

Valéria Ernestânia Chaves
Universidade Federal de São João del, Brazil

The basic mechanisms that lead obesity are not fully understood; however, several peptides undoubtedly play a role in regulating body weight. Obesity, a highly complex metabolic disorder, involves central mechanisms that control food intake and energy expenditure. Previous studies have shown that central or peripheral oxytocin administration induces anorexia. Recently, in an apparent discrepancy, rodents that were deficient in oxytocin or the oxytocin receptor were shown to develop late-onset obesity without changing their total food intake, which indicates the physiological importance of oxytocin to body metabolism. Oxytocin is synthesized not only within magnocellular and parvocellular neurons but also in several organs, including the ovary, uterus, placenta, testis, thymus, kidney, heart, blood vessels, and skin. The presence of oxytocin receptors in neurons, the myometrium and myoepithelial cells is well recognized; however, this receptor has also been identified in other tissues, including the pancreas and adipose tissue. The oxytocin receptor is a typical class I G protein-coupled receptor that is primarily linked to phospholipase C-β via Gq proteins but can also be coupled to other G proteins, leading to different functional effects. In this review, we summarize the present knowledge of the effects of oxytocin on controlling energy metabolism, focusing primarily on the role of oxytocin on appetite regulation, thermoregulation, and metabolic homeostasis.

Biography

Valéria Ernestânia Chaves received her PhD from São Paulo University in physiology area (2008). After a postdoctoral fellowship at São Paulo University, she became associated professor in the Federal University of São João Del-Rei. Her research is focused on neural and hormonal control of lipid metabolism.

valeria.chaves@gmail.com

Endocrinol Metab Synd 2014
ISSN: 2161-1017, EMS an open access journal

Endocrinology-2014
October 20-22, 2014

Volume 3, Issue 2

Page 117