Editorial: novel mechanisms involved in urinary bladder control: advances in neur...

Health & Medicine

Editorial on the Research Topic

Novel Mechanisms Involved in Urinary Bladder Control: Advances in Neural, Humoral and Local Factors Underlying Function and Disease

Introduction

Urinary bladder (UB) dysfunctions affect the daily life activities and well-being of millions of people worldwide, leading to social and mental discomfort (Hashim et al., 2009). Lower UB disorders are not always treated effectively and their etiology is also unknown. Moreover, the increase in life expectancy due to the improvement of public health conditions globally has contributed to an increase in UB dysfunctions as a greater number of women enter menopause (Varella et al., 2016). The understanding of all such issues is crucial for better therapeutic approaches.

In spite of the increasing knowledge of effects of injuries and neurodegenerative diseases on precise traditional pontine-spinal pathways (Verstegen et al., 2017), we are still distant from a full understanding of the mechanisms involved in UB dysfunctions. We also know that stress, trauma, anxiety, or depression, including witness trauma and post-traumatic stress disorder, are behind the etiology UB pathologies (Rothrock et al., 2001 ; Lai et al., 2016 ; Bradley et al., 2017). However, there is scant information on how psychological stress affects bladder mechanisms at local tissue level. In addition, novel mechanisms involving neurohypophysial hormones highlight a role for both vasopressin and oxytocin in the control of UB smooth and detrusor muscle (Crankshaw, 1989 ; Pandita et al., 1998 ; Cafarchio et al., 2016 , 2018). Finally, diabetic bladder dysfunction (DBD) is one of the most

common complications of diabetes and despite the pathophysiology of DBD has been recognized as multifactorial, including alterations in the detrusor and urethra smooth muscles, urothelium, blood vessels, and autonomic nerves (Yoshiyama et al., 2015), the mechanisms underlying bladder dysfunctions in diabetic patients are not fully understood.

This current Research Topic gives a glimpse of what is currently going on in this highly interesting area, by emphasizing a role for forebrain, psychological, and humoral mechanisms in the control of micturition.

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