Review

Hormonal supplementation in endocrine dysfunction in critically ill patients

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Abstract:
One of the greatest challenges for a physician is a critically ill patient. Regardless of the reason for an admission to the Intensive Care Units (ICU) (e.g. myocardial infarction, severe pneumonia, trauma or many others) each of the above-mentioned conditions impairs homeostasis including in stability of the endocrine system. The observed alterations in serum glucose level or clinical signs of hormonal imbalance alarm practitioners and prompt them to an intervention. However, side-effects of administered drugs have to be always considered, because every intervention in the endocrine system may have various consequences or prove itself maleficent. Since critical condition causes numerous changes in the hormonal system, the definition of endocrine gland failure in the ICU patients should differ from the definition related to the general population.

This review is aimed at describing alterations, diagnosis and treatment options for an impaired carbohydrate metabolism and inadequate response of the adrenal and thyroid endocrine axes. It has been written in order to aid the choice between “the watch and wait strategy” and aggressive pharmacological intervention. Furthermore, several standard and innovative therapeutic procedures were described and, if possible, compared. Recent articles have been included in order to show current views on the up-to-date clinical approach.

Key words:
critical illness, glycemia control, adrenal insufficiency, euthyroid sick syndrome