

# Case 5

Psychology



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Case 5: Medical Questions Affiliation: Solutions to questions in each paragraph The term used in the article by Kalantaridou et al. (2004) in describing the regulatory axis of the reproductive system is the hypothalamus-pituitary-adrenal axis (HPA). It is part of the stress response system with the principle effect of changing the behavior of an organism for the purpose of increasing the survival chances of an organism while undergoing a stressful situation. The outcome in turn encourages the ovaries into secreting estradiol and progesterone.

The HPA, being part of the stress response system creates the effect of changing the organism's behavior for the reason of increasing survival chances under stressful situations. At the situation where stress is present, the HPA will restrain on the production of stress hormones in the entire female reproductive system. The first hormone described is the corticotropin releasing hormone (CRH). It is a hormone that is responsible for regulating or restraining on the secretion of hypothalamic gonadotropin-releasing hormone (GnRH) (Magiakou et al., 1997). Similarly, the glucocorticoids plays the role of restraining the production of pituitary luteinizing hormone. The general effect of these hormones is that they contribute to the occurrence of "hypothalamic" amenorrhea of stress, which in most cases is subject to observe in the form of anxiety and depression in feminine gender.

The key female organs that normally respond to CRH are the reproductive tissues, comprising of the ovary, the uterus, and finally the placenta. The effect of this hormone in these tissues is that it regulates the reproductive functions through the component that is inflammatory. The hormonal signal aids in the regulation the process and periods of which ovulation occur. It also aids in regulating the luteolysis process, followed by performing

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regulatory functions on decidualization and implantation. The same hormonal signal may also aid in regulation of early maternal tolerance. Finally, the placental corticotropin releasing hormone is responsible for participating in the physiology of the pregnancy and to some extent initiating the labor process.

Unregulated cortisol production and unregulated release of stress hormones inhibit on the body's main sex hormones, which is gonadotropin-releasing hormone (GnRH). The hormone will subsequently suppress on the sperm count, suppressing on ovulation and inhibiting the general sexual activity (Senders, 2009). To the female reproduction, CRH and glucocorticoids participate in the physiology of the pregnancy. Circulating CRH causes physiological hypercortisolism that occurs in the final half stage of pregnancy. As part of the psychological effect, this hypercortisolism creates an adrenal suppression that is varying, thus explaining depression and the increased level of autoimmune phenomena that is common in pregnancy periods.

#### References

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