

A Brief Review on the Reproductive Hormones which Cover Many Major Events in Human Body

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ABSTRACT

Based on the classification of hormones, the enough ideas are scanty in most books. In this view, this article could exemplify a concrete solution, especially for Medical Science and Biology students. Hormones have many life-saving roles in the human body. With the deficiency of hormones, our body might fall huge problems. Information from books, articles, online supplements gave ideas on total hormones. The result suggested that endocrine and reproductive system jointly secreted 71 hormones (types were 56 in number). The highest number of hormones secreted from the ovary (10), then the kidney and testis (9). Out of 56 different hormones, the peptide hormones were 41(73.21%), steroid 27(48.21%), and amine 3(5.36%).

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INTRODUCTION

Knowledge about the physiology and anatomy of the gut endocrine system is most helpful for the clinician to understand the pathophysiology of certain diseases (excess hormone production from gut endocrine tumours) [1]. The posterior pituitary gland is not a true gland, but a collection of axons extending from the hypothalamus supraoptic and paraventricular nuclei terminating behind the APG [2, 3]. Hair follicles and sebaceous glands are the targets for androgens secreted by the gonads and adrenal cortex [4, 5] and melanocytes are directly influenced by polypeptide hormones of the pituitary gland [6]. Glucocorticoid receptor expressed in basal keratinocytes, Langerhans cells, and dermal fibroblasts [7, 8]; androgen receptor [5, 9, 10, 11], and progesterone receptor is expressed in basal epidermal keratinocytes only [12]; thyroid hormone receptor [13, 14], and estrogen receptor [11, 15b, 16, 17, 18]. It has been recognized that estrogens are important in the maintenance of human skin [15a] because the skin is also a source of corticosteroids [19]. Circulatory testosterone is a co-produced chemical in the skin and other peripheral organs [20]. The objective of this article is to mention the latest number of hormones depending on the chemical composition, same hormones from the different organs/glands, as well as organ systems of the human body.

OBSERVED HORMONES WITH THEIR CHEMICAL PROPERTIES

Androstenedione is a steroid hormone available in the kidneys, testes, and ovaries. Dehydroepiandrosterone was second in their position secreted from the same organs (Table 1). Since the 'endocrine system' and 'reproductive system' are different in the human body but based on secreted hormones, these two systems secrete hormones jointly. From here, 56 types of hormones were secreted from these and showed their chemical composition.

Table 1. Reproductive hormones are the true chemicals

Names	Secreted hormone(s)	Chemical composition
Pancreas	Amylin	Peptide
	Pancreatic polypeptide	Peptide
	Vasoactive intestinal peptide	Peptide
	Somatostatin	Peptide
	Glucagon	Peptide
	Insulin	Peptide
	Incretin	Peptide
	Gastrin	Peptide
Anterior pituitary	Somatotropin	Peptide
	Thyroid stimulating hormone	Peptide
	Adrenocorticotrophic hormone	Peptide
	Follicle stimulating hormone	Peptide
	Luteotrophic/Prolactin	Peptide
	Luteinizing hormone	Peptide
	Lipotropin	Peptide
	Endorphin	Peptide
Middle pituitary	Intermedin	Peptide
Posterior pituitary	Oxytocin	Peptide
	Vasopressin	Peptide
Pineal gland	Melatonin	Peptide
Thyroid	Thyroxine	Amine
	Triiodothyronine	Peptide
	Calcitonin	Peptide

Parathyroid	Parathormone	Peptide
	Atrial Natriuretic Peptide (ANP)	Peptide
Thymus	Thymosin	Peptide
	Thymulin	Peptide
	Thymopoietin	Peptide
	Thymic humoral factor	Peptide
Kidney	Calcitriol	Steroid
	Enkephalin	Peptide
	Thrombopoietin	Peptide
	Erythropoietin	Peptide
	Uroguanylin	Peptide
	Dehydroepiandrosterone	Steroid
	Renin	Peptide
	Dihydroxycholecalciferol	Steroid
	Androstenedione	Steroid
Adrenal cortex	Androstenedione	Steroid
	Glucocorticoid	Steroid
	Aldosterone/Mineralocorticoid	Steroid
Adrenal medulla	Androstenedione	Steroid
	Epinephrine/Adrenaline	Amine
	Nor-epinephrine/Nor-adrenaline	Amine
Testis	Anti-Mullerian hormone	Peptide
	Inhibin	Peptide
	Testosterone	Steroid
	Dehydroepiandrosterone	Steroid
	Dihydrotestosterone	Steroid

	Androstenedione	Steroid
	Estrogen	Steroid
	Estradiol	Steroid
	Sex steroid/Gonadocorticoid	Steroid
Prostate gland	Relaxin	Peptide
Ovary	Estrogen	Steroid
	Estrone	Steroid
	Estradiol	Steroid
	Estriol	Steroid
	Progesterone	Steroid
	Inhibin	Peptide
	Testosterone	Steroid
	Dehydroepiandrosterone	Steroid
	Androstenedione	Steroid
	Gonadocorticoid	Steroid
Decidual cells	Relaxin	Peptide
Placenta	Human placental lactogen	Peptide
	Human chorionic gonadotropin hormone	Peptide
	Estrogen	Steroid
	Estriol	Steroid
	Progesterone	Steroid
Foetus	Inhibin	Peptide

Source: [21, 22]

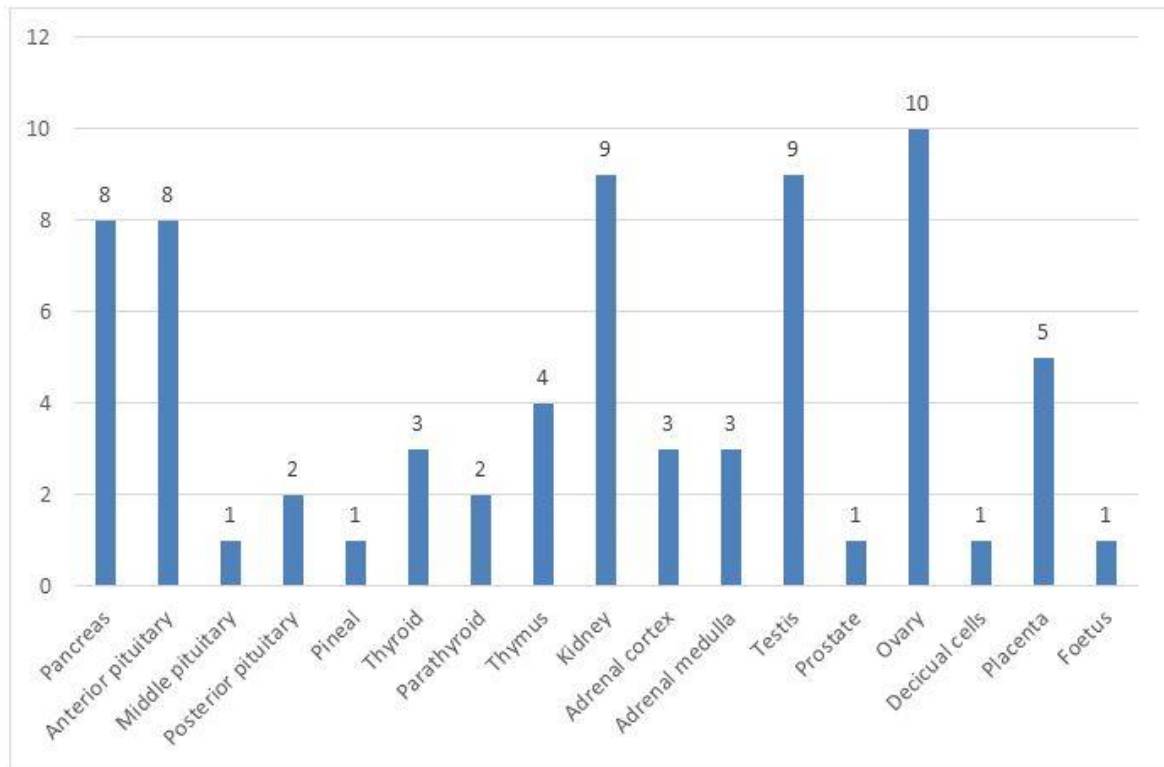


Figure 1. Total secreted hormones from their respective glands/cells/organ

CONCLUDING REMARKS

Hormonal deficiencies have a very negative role in our life. Through the proper classification of these hormones make us more curious to discover their unseen functions. In the future, it needs to enhance more research on the division of hormones in the human body.

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