

Altered and disordered physiology



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Endocrin Disorders 1

The traditional classification and Molecular biology

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The Endocrine System constitutes the secretion of hormones and regulates the glands in the body. The Glands that are secreted are Thyroid Glands, Pituitary Glands, Insulin secreted from pancreas, Adrenal Glands, and testicals. If the secretion of hormones is taken place directly to the blood stream it ends in disorders. This disorderd secretyion of hormones and glands might lead to diseases like stroke, cardiovascular disease, respiratory diseases, imbalanced secretion of thyroid gland leads to swelling of the organs etc. The hormone balance is one of the nessaryu factors that reaches the bone mass. If the secretion is not proper such as hyper secretion [increase in secretion], or hyposecretion [decrease in secretion] might resuly in growth disorders.

The secretion is classified as hyper secretion and hypo secretion depending on the amount of hormones secreted. The results ends in affceting the growth. For example hyper secretion reults in gigantism in chidren, and acromegaly in adults. Hypo secretion of hormones happens in glands like piptutory gland, the disordered secretion results in dwarfism during childhood, and also reduses long bone growth. The disorder in pancreas leads to diabetes insipidus. Etc.

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Tradionally scientisits classified the endocrine disorders into hyper and hypo secretion according to the imbalance in hormones and glands secretion and disorders into primary and secondary disorders. The thyroid glands has the

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disorder of hypothyroidism and hyperthyroidism. Similarly the insulin secretion results in primary and secondary diabetes level. The primary hyperthyroidism results in a stage where excess of parathyroid

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hormones are produced, whereas the hypothyroidism results in secondary hypothyroidism results due to low secretion of hormones.

But now a days with the advent of molecular biology the classification that was insisted based on hyper and hypo secretion of glands and hormones seem to be inappropriate as the scientists review the endocrine secretion in terms of the genes that is present in the cells. This method helps in the detailed analysis of the glands with the help of the characteristics of the particular gene.

Molecular biologists discovered the mechanism of the chromosomes pairing and separation that helped them in understanding what are the techniques that could be appointed to review the genes. To be more precise the invention of DNA helix, the gene expression was understood clearly and this included the protein synthesis also. So the molecular biology helps a lot in understanding the pattern of the secretion with the help of the DNA in the chromosomes. Wikipedia [2006] says that “Molecular biology chiefly concerns itself with understanding the interactions between the various systems of a cell, including the interactions between the various systems of a cell, including the interrelationship of DNA, RNA, and protein synthesis and learning how these interactions are regulated” http://en.wikipedia.org/wiki/Molecular_biology

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Standford [2005] says that “The question of whether classical genetics could <https://assignbuster.com/altered-and-disordered-physiology/>

be [or already has been reduced to molecular biology motivated philosophers to consider the connectibility of the term that they shared: the gene” This argument probably supports the view that the traditional classification of the endocrine disorders as hyper and hypo secretion into primary and secondary disorders seems not matching as the traditional methods do not apply the method of gene study or DNA .

References:

“ Endocrine Disorders”. Online available from http://en.wikipedia.edu/topic/endocrine_disorder/

Stanford Encyclopedia of Philosophy . “ Molecular Biology”. Online available from <http://plato.stanford.edu/entries/molecular-biology/#3.1#3.1>

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