

Medical Philately (Medical Theme on Stamps)



Hans Selye. Stamp-Canada, 2000



Congress on Stress. Stamp-Hungary, 1997

HANS SELYE (1907-1982)

Hans Hugo Bruno Selye was a Canadian endocrinologist of Austro-Hungarian origin. He graduated from the German University, in Prague (1929). Some commentators consider him as father of the stress-concept, and the first to demonstrate the existence of a separate stress syndrome or General Adaptation Syndrome (GAS). However, Walter Cannon had described it earlier, in his article, fight or flight syndrome (1914), and had coined the term 'homeostasis to external environment'.

For Selye, initial inspiration came from experiments in which he injected mice with various organ extracts and believed that he had discovered a new hormone. He was proved wrong, when every irritating substance that he injected, produced the same manifestations: - adrenal enlargement, gastrointestinal ulcerations and thymico-lymphatic involution (atrophy of spleen and thymus). He considered that 'noxious stimuli' produced this pathological triad, and developed the theory of stress, that attained wide popularity. It also incited controversy that persists till day. He described it as nonspecific response of the body to any demand. The hypothalamus-pituitary-adrenal axis system was first described by Selye, whereby body copes with stress. He outlined three distinct phases in the evolution of GAS: - alarm reaction (fight or flight), stage of resistance (adaptation), and stage of exhaustion.

The knowledge of GAS and HPA axis system made it possible, to begin gauging the role of stress in our lives. Multitude of researchers, continue to toil in the wake of his ideas, even twenty five years after his death

Stressors elicit both pituitary-adrenocortical and sympatho-adrenomedullary response. Karel Pacak et al (1998), measured arterial ACTH, norepinephrine, and epinephrine, in conscious rats after hemorrhage, injection of I.V. insulin or S.C. formaldehyde, cold, and immobilization. Results were inconsistent with Selye's doctrine of nonspecificity and unitary stress syndrome, and consistent with the concept that each stressor had its own central neurochemical and peripheral neuroendocrinological "signature". Immobilization elicited the largest increase in levels of all three compounds. Most researchers now believe that psychosocial stressors result in suppression of immune system and wear and tear of several systems

Selye worked as Professor Director of the Institute of Experimental Medicine and Surgery at the University de Montreal. Nominated for the Nobel Prize, he was also made Companion of the Order of Canada.