Introduction
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Distress brings about stress. It may involve a part or the entire organism. Stress may be trivial, but it became conceptive with the advent of Walter B. Cannon's series of research papers (Cannon, 1915/1929, 1932 and 1935). His views about the roots of stress are in 'fighting emotions' set the stage for the identification of fight-or-flight response (Cannon, 1929). Subsequently, appeared in the field, the doyen of stress research, Hans Selye (Selye, 1936 to Selye, 1976). Thus began and carried on the stress research for decades and continued further through the entire 20th century.

Stress arises from a transaction between individual and environment when the individual construes stimuli as damaging, threatening, or challenging. Stress situations involve awareness of demands that tax or exceed available resources as appraised by the individual. Beginning with the work of Hans Selye (1952), researcher's have sought, over the years, to describe and analyze the effect of stress. Demand imposed on an organism by internal and external environment can cause difficulty, fatigue, exhaustion and even death, if not counter-balanced by forces that contribute to maintenance of integrity of the body. In the initial phases of stress exploration, Selye (1950) proposed and demonstrated a general syndrome arising from the application of specific physical stress to animals and the animals reaction to it as General Adaptation Syndrome (GAS). Its characteristic physiology
is dominating the experimental domain for over five decades. Selye hypothesized that the body has a generalized defence system that is capable of warding off any form of stressor to which it might be subjected. Further more, the body has a localized system which come into play at the sight of any localized assault, and get link into the generalized system. Thus, a substantial branch of stress research has addressed itself to the physical and physiological manifestations of stress. The three major physiologic transmitters of stress reactions are: (1) Sympathetic activation, (2) Neuroendocrine (hormonal) stimulation and (3) End-organ response. However, they are interdependent. The inter-relation between the various sites of perception and their reaction to the stressor makes the subject multidimensional and vast. Therefore, a small area of a wide field can be handled at a time. However, all kind of stresses impinge on the higher centres of an individual. It may be an experience of trauma via nociception or emotion via limbic system, all lead to stimulate stress. The impulses in turn go to the pituitary, it received the message of the stimuli. ACTH is released by the pituitary, adrenal cortex is stimulated and corticosterone is released. This process by way of its feedback system controls the cyclic mechanism shown in Fig.1. This study was confined to the morphometric changes measured by stereological methods in the different cortical zones of adrenal gland.
Fig. 1

HYPOTHALAMO-HYPOPHYSEO-ADRENOCORTICAL AXIS

**STRESS**

**STIMULATE**

CRH

HYPOTHALAMUS

PITUITARY

ACTH

ADRENAL CORTEX

CORTICOSTERONE

Solid line indicates stimulatory effect and interrupted line shows inhibitory effect

**CRH**  -  CORTICOTROPHIN RELEASING HORMONE

**ACTH**  -  ADRENOCORTICOTROPHIC HORMONE
Besides adrenals, a detailed morphometric study of rat testis from birth (D0) to one hundred day (D100) was performed using stereologic principles. Testis can be affected by stress in many ways. Since it is a organ in the hypothalamo-hypophysio-gonadal system, figure 2 depicts action of hormones playing upon the two entities contained within the testis. These can be called as target sites, the seminiferous tubules and extratubular Leydig cells.
Fig. 2

BRAIN

HYPOTHALAMUS

LHRH

PITUITARY

T

E

LH

FSH

INHIBIN

HYPOTHALAMO-HYPOPHYSIAL-
LEYDIG CELL AXIS

HYPOTHALAMO-HYPOPHYSIAL-
SEMINFEROUS TUBULAR AXIS

E  - ESTROGEN
T  - TESTOSTERONE
LH  - LUTEINISING HORMONE
FSH - FOLLICLE STIMULATING HORMONE
LHRH - LUTEINISING HORMONE - RELEASING HORMONE