

elements in a compound neutralizes their opposite properties and may create a temperament suitable for synthesis and maintenance of life.

Fertilization and Calorie – Fluid Relationship

According to Avicenna both male semen (sperm) and female semen (ovum) contain in common a fluid part, but the difference lies in the energy content. Sperm is having more energy content (naar) in its middle piece whereas ovum is having more solid earthly constituents. Sperm is the cause of triggering activity in the ovum, which contains the basic material for embryogenesis. During fertilization solid constituents of the ova are energized by sperm in their common fluid medium. The resulting zygote from that time onwards till its death is under two types of influences (aafat). First is the gradual degradation or lysis (tahleel) of the fluid bound to the tissues (hararate ghareezi). Second is the putrefaction (taaffun) of this fluid leading to its disorganisation. Thus, Avicenna for the first time directs our attention to the fact that phenomenon of ageing starts from the time of fertilization itself. Heat produced by the normal breakdown of the tissues (hararate ghareezi) causes lysis, whereas heat liberated by the food (hararate ghareebi) causes putrefaction, both changes result in drying of the fluids. Consequently, there is a decrease in the capacity of the nutrients to get converted into tissue followed by gradual loss of capacity to support life finally leading to death.

Age and Calorie – Fluid Relationship:

The basic cause for the difference in growth rate at various ages, according to Avicenna lies in the difference of fluid content and basal metabolic rate (hararat gharizia). He says

that there is a relationship between the heat produced in the body (hararate ghareezi) and the amount of fluids present in the body (rutubate badani). This calorie-fluid relationship, which is present since birth to death, is the basis for growth and senescence. Though both fluid content and heat production decrease with age but not in the same proportion. During period of growth (sene hadasat) fluid is more to support growth and also to protect from metabolic heat. During period of arrest of growth (sene waqoof) fluid is decreased moderately so that it can only protect the tissues from heat but cannot support growth.

During period of senescence (sene inhiat) fluid is decreased to such an extent that it cannot even protect the tissues from damage by metabolic heat. (hararate ghareezi) Avicenna says that structural fluid is to the body what oil is to a burning lamp. Heat and fluids have an effect on each other. A decrease in the fluid causes a parallel decrease in heat production. On the other hand, metabolic heat tends to dry structural fluids from the beginning of our life. This rate of drying is gradually increasing with the advancement in age and finally a stage comes when fluids are so much reduced that there will be no heat production. In other words, oil is decreased to such an extent that it cannot burn the lamp and that is the end of life.

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Conflict of Interest

No conflict of interest.