ROLE OF AYURVEDA AND YOGA TO OVERCOME AGING

S.K. MISHRA
MCKR Hospital & Ayurvedic Research Institute
Lajpat Nagar, New Delhi, India

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ABSTRACT: The changes in the body with aging are various. They can be avoided by judicious use of the knowledge of Aha Vihara and Carya described in the Ayurvedic texts alongwith certain yogic practices with are minutely discussed here.

Until recently aging has been regarded as an inevitable process of gradual decline in vital capacities to ultimate death about which nothing can be done. In recent years, however ever increasing knowledge in biology, biochemistry and physiology given promise that some of the changes can be avoided and delayed, though these ideas were not only there but were common knowledge and practice in Yoga and Ayurveda.

By and large Geriatrics deals with the different aspects of the problem of aging which implies that the scope of geriatrics has an inverse proportion to the state of health in the world population. This means that the medical and health services as they improve are increasing the longevity of time the number of old people will swell and so also will the problems as the changes and the problems of the old people because the state of health of society will also decide the state of nutrition which will determine the changes due to aging longwith a complex and bizarre list of actors as well as the changes.

Ayurveda and Yoga both have gives very special consideration for these things as both have been popularized for longevity and it is recorded history that people practicing Yoga and leading life as per Ayurvedic doctrines have lived longer, happier and healthier lives. Obviously they required such knowledge as may allow a person to perform efficiently at every score, even at the 65+ level of age.

Both Ayurveda and Yoga have emphasized restrain and judiciousness in Ahara,Vihara and Carya in order to maintain the efficiency and avoid the effects of aging. WHO traditionally takes 65+as elderly the projected increase. In the elderly population of the world between 1980-2000 AD would be around 138 million, out of which developing countries will get a major chunk i.e. 100 million. The split shows that 32 million will be in China and 17 million in India. (WHO Technical Report No. 706,1984) – this shows the size of the problem and its importance in our country as well as the world over.
PROJECTED INCREASE IN THE ELDERLY POPULATION OF THE WORLD

| AREAS                  | Projected increase in the population aged 65+ad over (in millions) 1980-2000 AD |
|------------------------|----------------------------------------------------------------------------------|
| The World              |                                                                                   |
| Developing areas       |                                                                                   |
| China                  | 32                                                                                 |
| India                  | 17                                                                                 |
| Others                 | 51                                                                                 |
| Developed areas        |                                                                                   |
| U.S.S.R.               | 10                                                                                 |
| U.S.A.                 | .7                                                                                 |
| Others                 | 21                                                                                 |

Now looking to the changes in the body with aging are multiple, they can all be avoided by the judicious use of the knowledge of Ahar Vihara and Carya described in the Ayurvedic texts along with the yogic practices. As per present concepts elderly people require fewer calories than younger adults because of decreased BMR and activities. However this is not true for other certain changes that take place due to age are:

1) Body fat as proportion of body weight increases by 35% between 20-70 years.
2) Plasma volume decreases by 8% between 20-80 years.
3) Lean body mass and total body weight decreases by 17% between the age of 20-80 years.

Other changes that take place in the body are also multiple fluid requirements and their components also change.

Age changes appear to be more pronounced Thyrotrophs, Somatotrophs and Gonadotrophs of the Adenohypophysis.

CHANGES IN THE BODY WITH AGING
| Component                        | Age            | Changes                                                                 |
|---------------------------------|----------------|-------------------------------------------------------------------------|
| 1. Body fat                     | 20-70 years    | As proportion of body weight increases by – body fat is up by 35% ↑      |
| 2. Plasma volume                | 20-80 years    | Decreases ↓ by 8%                                                        |
| 3. Lean Body Mass Total Body weight | 20-80 Years | Decreases ↓ by 17%                                                        |

COMPARISION OF AN AVERAGE REFERENCE MAN AGED 25 AND 70 YEARS

(FLUID INTAKE)

In zona glomerulosa, zonarcticularis and spongiocytes of the adrenal cortex.

They consist of the atrophy of golgi apparatus.

- appearance of cytoplasmic vacuoles

- lipid and lipoproteingranules
- secondary lysosomes
- changes in the membrane

There are no appreciable changes in the adrenocosticotropic cells of the adenohypophysis.
Commonest physical health problem of the aging person is difficulty in locomotion. A recent WHO survey has shown that 4.6-8% of women and 1.6-5% men have this in the western society, Denmark tops having 37%, USA 30%, British 27%, Jerusalem 27%.

Neurological Changes

The axonal transport is also hampered, transport of specific neuronal proteins was studied by Jablaky & Brimjoin (1975) and they found four fold decrease in this.

20 fold decrease was found in the transport of choline acetyl transforase.

Old age appears to decrease the function of brain neurotransmitters and GABA binding also decreases.

The relation between age and 5-hydroxy tryptanone is contradictory.

Decrease in catecholamones has been reported in some studies.

Important neurological clinical entities of geriatrics are:

- strokes
- Parkinsonism
- Senile dementia

HYPERLIPIDAEMIAS

| PRIMARY          | SECONDARY                  |
|------------------|----------------------------|
| DIET             | HYPOTHYROID                |
| DIABETES         | CHOLESTASIS                |
| OBESITY          | NEPHROSIS                  |
| HEREDUTY         | PANCREATITIS               |
| AGE              | MISCELLANEOUS             |
| LIPID            |                            |
| SYNTHESIS        |                            |
| CLEARING         |                            |

Hyperlipidemias & It Effects in Aging
Aging is one of the primary causes of hypertilipidemias and once this occurs a person is exposed to all the complications of it e.g. atherosclerosis, decreased glucose tolerance, gall stones, fatty liver, skin lesions, hyper uricaemia, pancreatitis and the like.
Osteoporosis & Osteoarthritis

Contrary to the usual belief there is ample data compiling in literature the arthralgias in old ladies (Post menopausal) have two different clinical entities -

1) Post menopausal osteoporosis
2) Osteoarthritis

Most important is that they are not simply the end result of normal aging hence they can be very well avoided.

Oestrogen treatment started within one year of cessation of menstruation prevents bone loss but does not prevent the development of osteoarthritis. Since above normal fasting growth hormone levels have been found in cases suffering from osteoarthitis and in cases suffering from osteoporosis.

Biochemical data of bone protein matrix profile indicate that in osteoarthritis as well as in formal neck fracture quantitative and qualitative differences are present especially in the non collagen part. (Esteguin M et al 1985).

Anxiety of an elderly person has a complex mechanism and a model has been suggested by some workers regarding its mechanism. The treatment efforts in the elderly should be mainly fourfold-

1) Improve nutrition
2) Enrich environmental relation – prevent social and intellectual with drawal.
3) Correct physical/secondary defects- Dental, hearing, vision endocrines, cardiopulmonary physical thinking etc.
4) Initiate appropriation pharmacotherapy

Risk Approach

The risk factors may be found in –

1) Living conditions and environment
2) Health condition
3) Life style & attitude
4) Socio-economic factors and social support.
5) Attitude of the society towards the elderly

Pharmacological control of Neuronal Aging

We will briefly touch upon the approaches only-

1) Act on intrinsic cause of aging
2) Act on extrinsic metabolic, circulatory causes of neuronal aging
3) Facilitate and improve the neuro-transmitting functions of the body
4) Ameliorate the symptoms of neuronal aging

Conducting Clinical Research in Geriatric Population

Clinical research in geriatric population requires adaptation of the traditional methodologies, modification of expectations and development of new procedures. Some aspects of research methodology are unique to studies of geriatric population. Experiences relating to the new relationship between researchers and case takers is needed.
The researcher must consider the heterogeneity and the background of the workers in the social work.

Some preparations like Yogendrarasa (BR) and certain other receipe described in the Caraka, Susruta and Vagbhata have a definite role in counteracting the effects of aging. We have been using them in the management of patients and their role in keeping an aged person fit stands more than proven still, there is scope of planned studies for better understanding regarding their pharmacokinetics and pharmacodyanamics in the body.

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