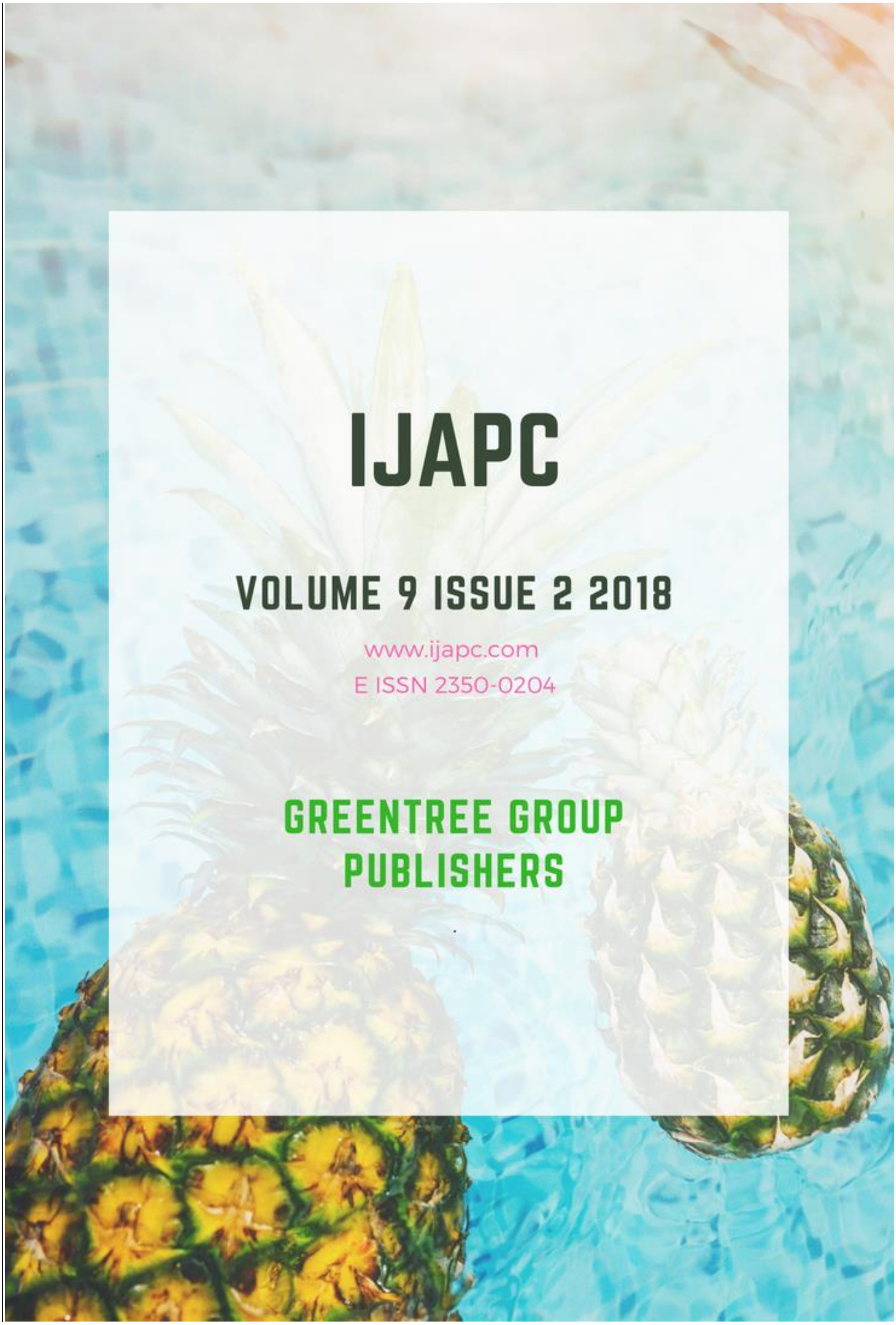

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Acharya Charakas' Analysis on *Anuvanshiki Siddhanta* (Genetics) in Ayurveda

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ABSTRACT

Ayurveda is science of life dealing with prevention and cure of diseases. The notion of *Anuvanshiki* (Genetics) has been known to the eminent scholars centuries back. Every life starts from a seed to grow into an individual as we see in process of budding of a plant from a littleseed. *Acharya Sushruta & Charaka* gave relevant concepts regarding hereditary and its effects during developmental period and even for later stage of life. Genes are the structural & functional unit of hereditary which is encoded with genetic information for an individual. The article is based on the *Anuvanshiki Siddhanta* with the ideology of modern genetics including teratological impact. The advancement in technology based life has a severe impact over the upcoming progeny (generation) because of the induced stress level, work pressure, sedentary lifestyle which over all affects the fertility rate. It is reviewed under literary methodology by putting together the thoughts of contemporary sciences and classical literature.

KEYWORDS

Anuvanshiki, Beeja, Beejabhaga, Beejbhagavayava,Genetics& Teratology

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INTRODUCTION

According to the *Ayurvedic* philosophy, every action is being done with some purpose (*Hetu*). The whole *Prakriti* (nature) has been evolved with a purpose like for instance, *Sukha- Dukha* (happiness-grief), *Purusha* or *Jeevatma*and like *Beeja(Shukra- Shonita)* came into existence for development of an individual [1]along with its other component parts which are discussed later. The formation of *Garbha* is the process of union of *Shukra*(sperm),*Shonita (ovum)* and *Jeeva*(life)in the *Kukshi*(uterus)[2] .It also includes the *Shad bhavas* which also participate in embryogenesis (*Matrija, Pitraja, Aatmaj, Satvaja, Rasaja&Satmayaja*)[3].

The transmission of characters /traits from parents to child and along with generations is called as *Anuvanshiki* (inheritance). These are being transferred by the *Beeja* (ovum-sperm),*BeejaBhaga* (chromosomes) and *Beejabhagavayaya* (genes). Gene is the principal unit of inheritance. *Matraj* and *Pitrajbhava* can be related with the parental imprints[4]. Various genetic diseases are developed due to any deformity in the *Beejabhaga, Beejbhagavayava*. These factors also carry same type of deformity in next generation. The study of *Beeja* and *Beejbhaga, Beejdosha* is useful for *Supraja* (healthy offspring) and to cure various congenital diseases.

Factors for determining Hereditary Defects:

Acharya Charaka has explained the concept of fertilization and development along with view that a man is born from man but the offspring is not similar. If the abnormality results, it is due to the damaged genetic source of that part & if nothing happens then it's in normal state. He said that sense organs are self derived and their presence/absence is determined by fate. So offspring are not invariably similar to parents[5] . The genes which carry the genetic basis of all the body parts and thus produce the person having similar body parts but the senses are governed by the deed enshrined in the soul. Thus even in patients of leprosy, the disease is transmitted to the offspring only if the genes are affected otherwise not. On the other hand, in case of senses, it is only by chance that the offspring of a blind man comes as blind[6].

Causes of Deformity in a Male &Female Child:

The hereditary defect that occurs in fetus is due to the imperfection of *Beeja, Beeja Bhaga* and *Beejabhagavayava.* If a woman conceives when her *Shonita* (ovum) and *Garbhasya* (uterus) were not completely vitiated but simply afflicted by the circulating *Doshas* then it may result in

deformity in offspring. She conceives but fetus gets damaged in one or more maternally derived organs (skin, blood) that are affected with morbidity in genes[7]. These vitiated *Doshas* may afflict the *Beeja* (chromosomes) or *Beejabhaga* (genes) from where the organs derived gets deformed. When the *Beejabhaga* in the ovum of mother which is responsible for the production of uterus is excessively vitiated, then she gives birth to a sterile child and on vitiation of *Beejabhagavayava* then she gives birth to *Putipraja*[8]. When along with above symptoms a portion of the genes concerning the organs that characterize a female like breasts, genital organs, hair etc; in the ovum of the mother gets excessively vitiated then she gives birth to a child who is not a complete female but only with characteristics- such type of child is known as *Varta*. The cases of *Suchimukhi*[9] and *Sandhya yoni*[10] can also be referred in genetical defects present in females

Causes of Deformity in Male Child:

Whenthe part of the *Beeja* which is responsible for the production of the sperm in the fetus is excessively vitiated, it results in a sterile child and *Beejabhagavayava*is excessively vitiated, then it results in birth to a *Putipraja*. When *beejabhagavayava* which is responsible for the production of sperm and also portions of the *Beejabhaga* which are responsible for the production of organs that characterize a male, are excessively vitiated, then this gives birth to a child who is not a complete male but only having masculine characteristics and is known as *Tranaputrika*[11].

The occurrence of sexual disorders is due to disturbance in the genetic composition. The Klinefelter's Syndrome (abnormal male XXY) is a male because of presence of Y chromosome. The testes are poorly developed leading to the sterility and gynecomastia also persists[12].On the other hand, Turner's syndrome is an example of female with only one X chromosome. Here subject is always a female. There is agenesis of ovaries and associated deformities include mental retardation, skeletal abnormalities and folds of skin on side of neck (webbed neck)[13].

Factors responsible for abnormality in fetus:

In answer to the question put up by *Agnivesha*, Lord *Atreya*replied that due to genetic factors, self deeds, by time period, mother's food regime and behavioral activities; the vitiated *Dosha* result in many type of congenital abnormalities[14].When the developed zygote (union of sperm-ovum) is completely or partially damaged in terms of genetic portion, the progeny has characters of female and male *Dwireta*(hermaphrodite). Similarly cases of *Pavanindriya*(devoid of semen) with

damaged genetic portion and reduced reproductive factor results into male and female*Sandya*(sterility)[15].

DISCUSSION

The word, *Beeja* refers to *Moola* (root). It is the main cause of *Uttpati* (origin) i.e. it has capacity to generate and *Shukra- Shonita* are root factors for development mentioned in our literature. The normal *Beeja* (*shukra-shonita*) with normal properties can reproduce but due to vitiation by *Dosha*, the fertilization process is not completed. Just like an affected seed, does not sprout into a plant, so is the incapability of *Beeja* to reproduce. *Beejabhagavayava* (genes) is fundamental unit of inheritance andit is located over *Beejabhaga* responsible for transmission of characters from parent cell. If these *Beeja* are affected by *Dosha* (genetic mutation) it results in various abnormalities. The signs–symptoms of Turner's syndrome andKlinefelter's syndrome are narrated under such chromosomal abnormalities which relate with *Varta&Tranputrika*. The view on*AtulyaGotra*by *Acharya Charaka* is referred to be important.

Detailed examination of *Gotra* system must be done along with other factors,because marriage between blood relatives can lead to abnormal offspring due to genetic mismatch and hybrid DNA combinations. The system can prevent diseases like cystic fibrosis, phenylketonuria (PKU), galactosemia, retinoblastoma, albinism, sickle-cell anemia, thalassemia, Tay-Sachs disease, autism, growth hormone deficiency, adenosine deaminase deficiency, and juvenile muscular dystrophy which are due to genetic disturbance[16].

The concept of *Aahar-Vihar Paricharya* also affects condition of the fetus. The food, or diet regime, lack of exercise, environmental factors affects growth of *Garbha*. If growing individual in the uterus is prompt to the certain agents (chemical/physical) abnormalities in development can be hazardous These agents are called as "**teratogens".** Teratological agents have wider area of contact on organ to organ which become prone for morphological deformities[17]. Birth defect, congenital malformation, and congenital anomaly are synonymous terms used to describe structural, behavioral, functional, and metabolic disorders present at birth[18].

The congenital anomalies occur due to intake of drugs, alcohol etc. and mostly during third to eight weeks of gestation like limbs defect due to sedative thalidomide. The consumption of alcohol may result in microcephaly or other structural

deformities of brain, or FASD (fetal alcohol spectrum disorder).Cigarette smokinghas been linked to anincreased risk for orofacial clefts (cleft lip andcleft palate). It also contributes to intrauterinegrowth retardation and premature delivery[19].

CONCLUSION

The whole theory of Genetics (*Anuvanshiki Siddhanta*) is based upon those 3 fundamental parts which on vitiation results into deformities. Genes are present on chromosomes which carry the genetic basis for an individual's constitution yet derived from the parent cell..'A man is similar to man' is said on the basis of the chromosomal constitution. The mutations which occur in genes (known as genetic mutation) lead to different types of congenital anomalies. The *Beejabhaga* and *Beejbhagavayava* described are similar to chromosome &genes concept of modern science.The related fact about *Garbha* and *AnuvanshikiSiddhanta* is beneficial for achieving a better progeny and prevention from the congenital abnormalities.

REFERENCES

1. Dr. D.G.Thatte(2015). Edited Role of parental &environmental imprinting in Ayurveda. Varanasi- Chaukhambha Orientalia. P-09.

2. R.K.Sharma, BhagwanDas(2012). Edited Charaka Samhita Shaarir Sthana (Part 2, 4/5). Varanasi-Chaukhambha Sanskrit Series Office. P-388.

3. R.K.Sharma, BhagwanDas(2012). Edited Charaka Samhita Shaarir Sthana(part 2, 4/4). Varanasi-Chaukhambha Sanskrit Series Office. P-389-390.

4. Dr.D.G.Thatte(2015) Edited Role of parental &environmental imprinting in Ayurveda. Varanasi- Chaukhambha Orientalia. P-04-05.

5. R.K.Sharma, Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana (part 2, 3/17). Varanasi-Chaukhambha Sanskrit Series Office. P-383-384.

6. R.K.Sharma ,Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana (part 2, 3/17). Varanasi-Chaukhambha Sanskrit Series Office. P-384.

7. Dr. P.V.Sharma(2010). Edited Charaka Samhita Sharir (part 4, 4/30). Varanasi-Chaukhambha Orientalia. P-434.

8. R.K.Sharma ,Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana(Part 2, 4/30). Varanasi-Chaukhambha Sanskrit Series Office. P-402.

9. Pandit Kashinath Pandey, Dr. Gorakhnath Chaturvedi (2009). Edited Charaka Samhita Chikitsa Sthana (part 2, 30/31). Varanasi- Chaukhambha Bharati Academy. P- 845.

10. Pandit Kashinath Pandey, Dr. Gorakhnath Chaturvedi (2009). Edited Charaka Samhita Chikitsa Sthana (part 2, 30/34). Varanasi- Chaukhambha Bharati Academy. P- 845.

11. R.K.Sharma, Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana (part 2, 4/31). Varanasi-Chaukhambha Sanskrit Series Office. P-404.

12. Inderbir Singh , G.P Pal (2013). Edited Human Embryology. 9th Edition MacMillan Publishers. P-25.

13. Inderbir Singh ,G.P Pal (2013). Edited Human Embryology. 9th Edition. MacMillan Publishers. P-25-26.

14. R.K.Sharma ,Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana (part 2, 2/29-30). Varanasi-Chaukhambha Sanskrit Series Office. P-359.

15. Vaidya Yadavji Trikamji(2008). Edited Charaka Samhita Shaarir sthana .Chakrapanidatta, Ayurveda Dipika Commentary. Varanasi- Chaukambha Surbharti Prakashan. P-303-304.

16. R.K.Sharma ,Bhagwan Das(2012). Edited Charaka Samhita Shaarir Sthana

(part 2, 2/3). Varanasi-Chaukhambha Sanskrit Series Office. P-351.

17. Inderbir Singh, G.P Pal (2013). Edited Human Embryology. 9th Edition. MacMillan Publishers. P-11.

18. T.W Sadler (2012). Edited Langmans Medical Embryology. 12th Edition.Lippincott Williams & Wilkins. P-118.

19. T.W Sadler (2012). Edited Langmans Medical Embryology. 12th Edition.Lippincott Williams & Wilkins. P-180.