

CRITICAL RESEARCH STUDY OF PITRUJ BHAVA AND ITS IMPORTANCE IN GARBHOTPATI**Dr. Sruthi K.*¹ and Dr. Prashant G. Sali²**¹P.G. Scholar, Dept. of *Rachana Sharir*, GAC, Nanded.²Assistant Professor, Dept. of *Rachana Sharir*, GAC, Nanded.***Corresponding Author: Dr. Sruthi K.**P.G. Scholar, Dept. of *Rachana Sharir*, GAC, Nanded.

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ABSTRACT

Shadbhava samudaya or the six procreative factors explained in *Ayurveda* gives evidences of the theory of inheritance and the importance of physical, mental, social and economic status of the mother as well as the father before conception i.e. during the pre-conceptual period as well as during the pregnancy time. Here the study emphasizes to see the importance of *pitruj bhaava* in *garbhotpathi* along with the role of *vayu* in the formation and development of *garbha* as well as in the destruction of *garbha*. The study also peeks in to the modern aspect of causes of miscarriages due to paternal factors and correlate with the involvement of vitiated *vata* leading to miscarriage or pregnancy loss.

KEYWORDS: *Shad Garbhakara bhavas, pitruj bhava, vayu mahabhuta, shukra.***INTRODUCTION**

The term *Garbhavakranthi* though analogically stand parallel to the embryology, but is more comprehensive. In real sense, it deals with the process of fertilization and development of the fetus starting from their paternal units, their union, implantation, successive growth and finally the full-term delivery. *Acharya Charaka* has said that there are *Shad Bhava* (six factors) which are collectively responsible for the proper development of an embryo including hereditary factors. They are known as *shad bhava samudaya* (procreative factors) viz. *matruj, pitruj, atmaj, satmyaj, rasaj* and *satwaj*, act collectively while growth process of *garbha* (embryo).^[1] *Ayurveda* also believes that growth process of every organ is initiated at one and the same time.^[2] This collective initiation of growth process has been accepted by all the *ayurvedic* embryologists under the concept of *yugpat vikas krama*, and various body tissues respectively develop from their respective *bhavas*.

The current study is to analyze the importance of *pithruj bhava* in *garbhotpathi*. Similar to *matruj bhava* and other *bhavas*, *pitruj bhava* also have high importance for the proper fetal formation and development. Ancient Acharyas had the immense knowledge about the branch of embryology, *kulaja vritha*, impurities that could be present in the *shukra* (sperm) and *arthava* (ovum), *Acharya* strictly prohibited marriage between *tulya gotra* i.e. within the same community or clan to reduce the risk of hereditary diseases and thus to avoid congenital anomalies.^[3] They were also specific about the age of

conception and pre conceptual care for both the partners to ensure the health of the *beeja*. In the modern era with busy life schedule, the incidence of abortion has also been increased. The causes of abortion are many ranging from genetic causes, endocrine and metabolic disorders, anatomic, infections, immunological, anti-fetal antibodies etc. Among these, chromosomal abnormalities contribute to 50% of the spontaneous miscarriages.^[4] An embryo with a genetic problem has 95% probability of being aborted.^[5] Chromosomal problems due to parent's gene are however a possibility. Literature gives evidence of sperm chromosomal anomaly causing miscarriage as *vata vikara* in *shukra* leading to *garbha naasha*.

Here comes the importance of care to be given to the male part before conception because if there is any abnormality in the male part it can lead to terrific effect in the development of the embryo and fetal parts originated from the paternal side can also become effected.

AIM

- To study the importance of *pitruj bhava* in *garbhotpathi*.

OBJECTIVES

- To analyze the role of *vata* in fetal development and abortion.
- To see the importance of pre conceptual care.

METHODOLOGY

Classical literature of Ayurveda as well as modern medical science on the subject of anatomy, embryology, gynecology and genetics from library as well as from internet were collected, analyzed and presented.

REVIEW OF LITERATURE

Inheritance as per Ayurveda

○ *Acharya Charaka* in *Charaka Samhitha Sharirsthana* clearly explains *shad bhava samudaaya* which are collectively responsible for proper development of an embryo including hereditary factors. They are:

1. *Matruj* - Maternal factors
2. *Pitruj* - Paternal factors
3. *Atmaj* - Soul
4. *Satmyaj* - Tolerant factors
5. *Rasaj* - Nutritional factors
6. *Satwaj* - Psychological factors

Ayurveda believe that growth process of every organ is initiated at one and the same time. The theory of *yugapat vikas krama* was finally accepted by Lord *Dhanwanthari*. For the growth process each bhava mentioned here has equal importance in the development of respective tissues which derives from the concerned *bhaava*.

The entities which are particularly developed from the paternal factor or derived from paternal genes are^[6]

- *Kesha* - Hairs
- *Shmashru* - Secondary sexual characters like beard, axillary and groin hair
- *Nakh* -Nails
- *Loma* -Body hairs
- *Dantha* -Teeth
- *Asthi* - Bones
- *Sira* -Veins
- *Snayu* -Tendons and ligaments
- *Dhamanis* -Arteries
- *Shukra* -Semen and sperm

According to *Charaka*, in *Charaka Samhitha Sharirsthana*, the anatomical and congenital anomalies develop in those parts of the body whose *beejabhaga* is defective.^[7]

Role of *vayu* in development of *garbha*

- ✓ In *Charaka Samhitha Suthrasthana*, while describing the proper bodily functions of *vayu*, it is the *vayu* which is responsible for giving shape to the embryo or having specialized action in embryonic development of fetus.^[8]
- ✓ *Acharya Sushruta* explains about two factors for development of *garbha* as *rasanimitta* and *maruthaadhmaananimitta* i.e. the fetus develops through the nutritional factors and infusion of *vata* or flow of *vata*.^[9]

- ✓ As per *Kashyapa*, in *Kashyapa Samhita Sharirsthana*, *vayu* is responsible for the cell division.^[10]

Kashyapa also opines that the finest particles of *vayu* are responsible for the union, division and activity like flexion, extension etc., as well as division of major and minor body parts, *dhatu*, *chetana* (consciousness) and *srotas* (channels) due to their specific nature.^[11]

- ✓ *Acharya Harita* opines that *bija* (sperms and ovum) both together attains the shape of *kalala* by the action of *agni* situated in all the five *mahabhutas*. But he has emphasized the role of *vayu mahabhuta* along with the role of *agnimahabhuta* which helps in onward conversion of zygote in to blastocyst (*kalal*) and blastocyst solidifies into a formative mass. The formative mass proceeds to solidify. Now all the five *mahabhuthas* in association of *vyan vayu* converts the formative mass into *pancha pindikavastha* (five bud stage). There are two *pinda* (buds) for upper and two *pinda* for lower limbs and fifth is for *shiras* (head and neck). Thus, in every future events of development of the embryonic growth finally looks like a fetus having all the body parts. *Udan vayu* helps to develop pharyngeal pouches, lung buds and primitive heart. *Apan vayu* helps to open the outlets for excreta or *payu* (vaginal, urethral and anal openings in females whereas only two in males i.e. urethral and anal in male). Therefore, it can be concluded that different types of *vayu* help to develop all the nine outlets (*navadwara* or *randra*) having their separate entity. They are stomodeal openings, two nasal openings, two openings for ear, two eyes, anal opening, urethral opening and vaginal opening in females.^[12]
- ✓ As per *Acharya Sushruth*, in *Sushruth Samhita Sharirsthana*, in the formation of *garbha*, *vayu mahabhuta* does the role of *vibhajana*. The division of *dosha*, *dhatu*, *mala*, *anga* and *pratyanga* i.e. major and minor body parts is done by *vayu*.^[13] This we can correlate with the process of cleavage in the first stage of cell division.
- ✓ As per *Vagbhata*, in *Ashtanga Hridaya Sharirsthana*, the normalcy of *anila* is an inevitable factor for the formation of *garbha*.^[14]

Role of *vayu* in *garbha naasha*

- According to *Charaka* in *Charak Samhita Chikitsasthana*, the aggravated *vata* situated in the *shukra* is responsible for abortion.^[15]
- *Acharya Susrutha* while enumerating the causes of *moodagarbha* and *garbhasraava*, has enlisted *krimi*, *vata* and *aghaata* (trauma).^[16]
- *Acharya Harita* explains vitiated *doshas* especially *vata dosha* leading to abortion.^[17]
- In *Bhavaprakasha*, *garbha naasha* is enumerated as one of the 80 disorders of *vata* i.e. *vata* is responsible for abortion.^[18]

OBSERVATION

Acharya Charaka has explained the concept of inheritance by *anuvamshiki sidhantha* and has described about different body parts has been evolved from specific *bhaava* each. Here we have analyzed the importance of *pitruj bhaava* in *garbhotpathi* and the necessary for proper pre conceptual care for each partner as each and every structure is specific to be evolved from different *bhaava*. *Shukra* (sperm) is one among the *pithruj bhaava* as well as it is responsible for carrying the inheritance as genes. Different *Acharyas* has explained the role of *vayu* in *shukradushti* as *vayu* is responsible for giving shape to an embryo and the flow of *vayu* or infusion of *vayu* along with the nutritional factors are the two main factors responsible for the development of *garbha*. The cell division soon after union of sperm and ovum is done by *vayu* and the differentiation is initiated by *vata* itself. Thus, for a normal embryonic development, an unaffected or unvitiated *vayu* is an inevitable factor.

While we look into the causes of abortion, *vayu* itself plays the major role. The *vata dushti* present in the *shukra* is responsible for *garbhanaasha*. As per modern concepts, various studies had taken place on causes of unexplained recurrent miscarriages. Among these main paternal factors contributing for miscarriages could be ruled out are advanced paternal age, psychological stress, excess use of alcohols, smoking, excess competitive sports etc.^[19] These can lead to oxidative stress changes in the sperm DNA and can also influence the length of telomeres.^[20] Studies shows that this oxidative stress changes lead to DNA fragmentation.^[21] While we analyze the causes of abortion due to paternal factor all these causes mentioned are *vata* aggravating in nature which can lead to poor quality of *shukra*, the normal function of *vata* in formation of *garbha*, i.e. *vibhajana* gets impaired and excess *vibhajana* may takes place and can result into DNA fragmentation. Thus, formed *garbha*'s development gets hampered in the first stage itself and can lead to miscarriage.

DISCUSSION

Acharya has explained the theory of inheritance elaborately in the concept of *shad bhava samudaya* in which each physical and anatomical structure in human body is said to be derived from paternal as well as maternal genes.

As per Ayurveda three genetics units have been mentioned by *Acharya Charaka*;

1. *Beeja*
2. *Beejabhaaga*
3. *Beejabhaagaavayava*

The anatomical anomalies develop in those parts of the body whose part of the chromosome or gene is defective. The Genes are located on chromosomes and it is the chromosomes that segregate and independently assorted. Alleles are various forms of genes. Therefore, dominant and recessive factors are alleles of gene. A pair of alleles

exist for each trait in *kalal* (zygote) of a fertilized ovum and in every cell of the body there after.

According to *Chakrapani*;

The smallest unit found in *shukra* (sperm) and *shonita* (ovum) which can be considered as *beeja* of male and female respectively.

The *beejabhaaga* is the component lying inside the *beeja* and holding responsibility of development of different body organs.

The *beejabhaaga avayava* is the more subtle stage of *beeja bhaaga* carrying hereditary characters.^[22]

While considering about miscarriage or *garbhanaasha*, sperm anomalies can also lead to *garbhanaasha*. *Shukra*, as it is considered as itself derived from the *pitruj bhaava*, the *shukra* is responsible for carrying the hereditary factors of the father to the upcoming fetus through fertilization. Various research works has shown that there are various paternal reasons for miscarriage, such as, the sperm transcript dysregulation and oxidative DNA damage can be "carried over" after implantation thus effecting embryogenesis and health of the future progeny.^[23] Around half of the spontaneous miscarriages occurring in the first trimester are likely to be due to chromosomal abnormality. The chromosomal abnormality in the zygote may result from errors during gametogenesis, during fertilization or during first cellular division. Thus, any such abnormality in the sperm could be a cause of spontaneous miscarriage. The male factors other than advanced paternal age, such as excessive stress, competitive sports, infection, alcohol, smoking, nicotine and drug abuse may result in production of reactive oxygen species and in sperm DNA fragmentation.^[24] Here, we can see that advanced paternal age, as per *Ashtanga Hridaya*, the latent period of age that is in *vridhaavastha* the body will be of *vata dosha* predominant constitution (*vayo aho ratri bhuktaanam te antah madhyaadika kramat*).^[25] The excessive stress is one among the *manasika nidana* for *vata kopa*. The competitive sports can be compared with *ativyayama* that leads to *vataprakopa*. The use of alcohols in excess leads to *vata* aggravation in the body and *dhatu shosha* as the properties of *madya* is opposite to that of *ojas*.^[26] Smoking or *dhoomapana* if it is not practiced according to *dhoompana vidhi* mentioned by *Acharyas* or excessive *dhoompana* can also lead to *vata kopa*. As it is proved that all these factors lead to sperm anomalies, we can correlate that the aggravated *vata* with its impaired function can lead to DNA fragmentation and difference in length of telomere that can lead to defective cleavage, that is the first stage of cell division. The process of cell division itself is the property of *vata* i.e. *vibhajana* is affected and all these ultimately can result in miscarriage or *garbhanaasha*.

Here comes the importance of *beejashudheekarana samskaras* explained by *Acharya*. Proper preconceptual

care for both the parents should be given before preparation for a *shreyasi praja*, for improving the qualities of *beeja*, *beejabhaaga* and *beejabhaaga awayava*. Acharyas had explained various methods to be followed as preconceptual care starting from proper *Sneha sweda*, then undergoing *shodana karma* as *vamana* and *virechana* to eliminate the vitiated *doshas* present in our body and after that to undergo *asthapana* and *anuvasana vasthi* to normalize the remaining vitiated *vata* in the body.^[27] After these *shodhana karma* both the male and the female partners should undergo specific diet to make the body healthy and to improve the quality of *beeja* in both the parents. For a disease free and healthy infant endowed with excellence in the contributing factors mentioned in *shadbhava samudaya* i.e. the factors derived from each *bhaava* should be of good quality and thus each factor in *garbhakara bhaava* has equal importance for the formation of *supraja*.

CONCLUSION

In spite of advance in technologies, we can see that there are some unknown causes responsible for defective development of fetus or that causes abortion. *Ayurveda* suggests various approaches like considering *shad garbhakara bhaavas* which plays a vital role towards the development of normal fetus. A lag on any part of these procreative factors may lead to structural and psychological defects to the body. Just like the maternal care, pre conceptional care for the male part is also necessary as unhealthy *shukra* also leads to miscarriage. Proper management should be taken care to normalize the *doshas* in the body especially *vata dosha* as *vata* influence other *doshas* to get vitiated among the *tridoshas*. As well as we can see each *panchabhootha* has its own influence in the formation of *garbha* and we should maintain a wholesome atmosphere for the action of these factors without disturbance, in the formation of *garbha*. In short being *swastha*, that is with equilibrium in *dosha*, *agni*, *dhatu*, *mala* etc is necessary to maintain good health²⁸. As each anatomical structure and even psychological status of the fetus has been derived from each *shadbhaava*, utmost importance should be given to each factor for a healthy progeny. We can see that the basic principles established by *Acharyas* ancient years ago in the field of *Rachana sharir* about the formation of an embryo stand true in the light of modern science also.

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