



## REVIEW ARTICLE

# REVIEW OF GARBHASYA SHADDHATWAMAKABHAVAS (PANCHAMAHABHUTAS AND ATMA) IN THE FOETAL DEVELOPMENT

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### ABSTRACT

The creation of *garbha* in the *garbhashya* by the permutation of *Shukra* and *Artava* with *atma* is known as *garbha*. So this process is known as *garbhadhana*. It is mainly explained by *Acharya Charak*, According to him there are six factor i.e. *matrujadi shad bhava* which are helps in the formation of *garbha* and development of *angapratyangas*. Other than these six *bhavas* there are *shaddhatwatmaka bhavas* i.e. *akashaja*, *vayaviya*, *agneya*, *jalaiya*, *parthiva*, and *atmaja* have the influence on the constitution of the body. When *shaddhatu* come together *garbha* is formed, hence *garbha* is known as the product of *panchamahabhutas* and seat of *chetana*, Hence *chetana* is the 6<sup>th</sup> *dhatu*. *Panchamahabhutais* the core fundamental aspect of *Ayurveda*. It is the five basic material constituents which exist in the universe and human beings. And because of *chetana* the *garbha* remains alive upto the *prasava* (delivery). The entire physical, chemical, biochemical changes precipitating inside the body, are only because of different pattern of combination and mode of action of *panchamahabhutas*.

So there is need of time to elaborate to explain the role of *shaddhatwaatmaka bhava* i.e. *panchamahabhuta* and *atma* in development of *garbha*.

**Key words:** *Panchamahabhuta, Atma, Shaddhatwatmaka bhava, Garbha, foetus.*

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## INTRODUCTION:

*Acharya Charaka* said that the embryo is formed by the five *mahabhutas* viz, *akasha*, *vayu*, *agni*, *jala* and *prithvi* and it serves as the receptacle of *chetana* (consciousness). In fact the soul (conscious element) constitutes the sixth *dhatu* (elements) responsible for the formation of *garbha*(embryo)<sup>[1]</sup>. *Sushruta* has emphasized that human body is made up of *panchamahabhuta* and all the components of foetus derive from *mahabhuta*. And also stated the role of *panchamahabhuta* and *atma* (consciousness) during the course of embryonic development<sup>[2]</sup>.

*Charaka* said that Soul, first of all, unites with *Akasha* before uniting with the other *Bhutas*. This is like the creation of *Akasha* by God after the period of deluge. As God, the indestructible one, equipped with the *Manas* (mind) creates *Akasha* first, and then the other *Bhutas* whose attributes are more and more manifested successively, so does the Soul, desirous of creating another body, first of all, unites with the *Akasha*, and then with other four *Bhutas* whose attributes are more and more manifested successively. All this action association of the Soul with the five *Mahabhutas* takes place in a very short time<sup>[3]</sup>.

## SPECIFIC FUNCTION OF PANCHAMAHABHUTA

### IN FOETAL DEVELOPMENT:

According to *Acharya Sushruta* in *Chetan* (alive) *Garbha*, *Vayu Bhuta* does *Vibhajana* (cell division), *Tejas Bhuta* does *Pachana*, *Jala Bhuta* does *Kledana* (moistens), *Prithvi Bhuta* does *Samhanana* (hardness), and *Akasha Bhuta* does *Vivardhana* (enlarges)<sup>[4]</sup>.

**Vayu (the air):** Division of *dosha*, *dahtu*, *mala*, *anga* and *pratyanga* is done by *vayu*. Which causes the organogenesis, tissue formation and systemic maturation in the developmental process of embryo, the *vayu mahabhuta* to divide the fertilized cell into two daughter cells. The multiplicity is possible by *vayu mahabhuta* thus it act in the multiplicative growth process thus the word growth implies in mass and size, which results by "Cleavage". And also monitors the mind and its activity.

**Agni (the fire):** *Teja mahabhuta* restores the metabolic activities and supplements as converter of mass into energy. It provides general appearance like human structure etc. Along with colour and complexion. By performing metabolic function which maintains the life of foetus. *Teja mahabhuta* act in differential growth this denotes the process of change in the function and form. The segmentation nucleus divided into two types of functional cells i.e. trophoblastic and embryoblastic cells. It differentiates into "Gastrula".

**Aap (the water):** *Jala* renders moistening quality to the *garbha* it causes the re-

humidification of the dryness created by *vayu* and in the process of division thus maintain the life of foetus. *Aap* or *jala mahabhuta* play role in accretionary growth in the growth of foetus thus the word accretion means growth by accumulation of water, and process of protoplasmic synthesis and water uptake.

**Prithvi (the earth):** does consolidation and it solidified or gives shape to the embryo already moistened by *jala*. It is responsible for all hard substances and integrity of the body. *Prithvi mahabhuta* brings the inner changes which occur the differentiation. Apparently this

compounds to the changes in shape. It plays a role in Accretionary growth.

**Akash (the ether):** it provides the *vivardahana* i.e. action of multidimensional development with poursness of different cells. And Development & increase in size by providing vacuum with *adhmapana* is done by akasha. It brings the changes in the size of the growing foetus. *Akash mahabhuta* play role in Auxetic growth, this property of auxesis involves increase the size of organism. Especially due to the growth of size of its individual cells, rather than increase in number.

#### IN MODERN GROWTH PROCESSES RELATED TO THE MAHABHUTAS:

- |                        |   |                                     |
|------------------------|---|-------------------------------------|
| 1) Growth phase        | ⇒ | <i>Vayu mahabhuta</i>               |
| 2) Auxetic growth      | ⇒ | <i>Akasha &amp; vayu mahabhuta</i>  |
| 3) Accretionary growth | ⇒ | <i>Prithvi &amp; Jala mahabhuta</i> |
| 4) Differential growth | ⇒ | <i>Teja mahabhuta</i>               |

#### SOURCES OF PANCHA MAHABHUTAS IN FOETUS:

According to *Acharya Charaka* physical body is constituted by five elements. The source of origin of these five elements into the *garbha* are from four sources. The *Garbha* (foetus) are composed of four *Mahabhutas* (except *akasha*). Each four *bhutas* from four origins constitute<sup>[5]</sup>.

- (1) Those from the *Mata* (mother's ovum).
- (2) Those from the *Pita* (father's sperm).
- (3) Those from the *Ahara* (diet) of the pregnant mother and

(4) Those accompanying the *Atmakrta* (by Soul) which enters into the *Garbha* (foetus).

Depending on these predisposing factors the physical and psychological features of the foetus are determined. *Charaka* added that in the body of living beings, there are sixteen types of *Bhutas*. They are derived from *Rasa* (digestive product of mother's food), *Atma* (Soul) and *Mata- Pita* (mother and father). These four *Bhutas* accompany the *Atma* (Soul) which itself depends upon four of them for its existence. *Bhutas* from the *Mata-Pita* (mother and Father) are derived through their *Rajah* and *Shukra* (ovum and sperm). It is the *Rasa*

(digestive product of food) which provides nourishment in the *Shukra* and *Asrk* (sperm and ovum).

1) **AKASHIYA COMPONENTS:** *Akasha* is the source of *shabda*, its *indriya* is *shrotreindriya* and is predominantly *satva* in nature.

**ROLE OF PANCHAMAHABHUTA IN ORGANOGENESIS:**

**Table 1. Contents produce from akasha**

Components	Charak <sup>[6]</sup>	Sushruta <sup>[7]</sup>	Vagbhata I <sup>[8]</sup>	Vagbhata II <sup>[9]</sup>	Kasyapa <sup>[10]</sup>
<i>Sabda</i> (sound)	+	+	+	+	+
<i>Sabdendriya</i> (auditory system)	+	+	+	+	+
<i>Laghava</i> (lightness)	+		-	-	+
<i>Sauksmya</i> (minuteness)	+		-	-	+
<i>Viveka</i> (division)	+	+	+	+	+
<i>Srotasa</i> (channels)	-		+	-	-
<i>Sarvachidra Samuha</i>		+			
<i>Mukha</i> (oral cavity)	-		-	-	-
<i>Kantha</i> (throat)	-		-	-	-
<i>Kostha</i> (abdominal cavity)	-		-	-	-

2) **VAYAVIYA COMPONENTS:** *Vayu* is predominant with *rajo guna* and it is inherited with normal temperature, touch and moves in all direction. *Gati* (movement) and pressure (*gandhana*) are the basic features of *vayu*.

**Table no. 2 contents produce from vayu**

Components	Charak <sup>[6]</sup>	Sushruta <sup>[7]</sup>	Vagbhata I <sup>[8]</sup>	Vagbhata II <sup>[9]</sup>	Kasyapa <sup>[10]</sup>
<i>Sparsa</i> (sense of touch)	+	+	+	+	+
<i>Sparsanendriya</i> (organ)	+	+	+	-	+

of sense of touch					
<i>Chesta</i> or <i>Parispandana</i> (activity of body)	+	+	+	-	+
<i>Laghava</i> (lightness)	-	+	+	-	-
<i>Sarva Sharir Spandana</i> -	-	+	+	-	-
<i>Dhatu-Vyuhana</i> (formation or transformation of <i>Dhatu</i> )	+	-	-	-	-+
<i>Ucchavasa</i> (expiration)	-	-	+	+	-
<i>Rauksya</i> (dryness)	+	-	-	-	+
<i>Prerana</i> (dryness)	+	-	-	-	+
<i>Prana</i> (inspiration and expiration)	-	-	-	-	+
<i>Apana</i> (flatus)	-	-	-	-	+

**3) AGNEYA COMPONENT:** *Agni mahabhuta* is *dravyas* which are inherited with qualities like predominant of *satva* and *raja* and *agneya rupa* etc.

**Table no.3 Contents produce from *agni***

Components	Charak <sup>[6]</sup>	Sushruta <sup>[7]</sup>	Vagbhata I <sup>[8]</sup>	Vagbhata II <sup>[9]</sup>	Kasyapa <sup>[10]</sup>
<i>Rupa</i> (form)	+	+	+	+	+
<i>Chaksu-Indriya</i> (ophthalmic apparatus)	+	+	+	+	+
<i>Pakti</i> (metabolism)	+	+	+	+	+
<i>Usma</i> (body-heat)	+	+	-	+	+
<i>Varna</i> (complexion)	-	+	+	-	-
<i>Bhrajisnuta</i>	-	+	-	-	-

(splendor)					
<i>Amarasa</i> (intolerance)	-	+	-	-	-
<i>Taiksnya</i> (Sharpness)	-	+	-	-	-
<i>Saurya</i> (Valour)	-	+	+	-	-
<i>Saurya</i> (Valour)	-	+	+	-	-
<i>Santapa</i>	-	+	+	-	-
<i>Prakasa</i> (light)	+	-	-	-	+
<i>Pitta</i> (metabolic enzymes)	-	-	+	-	+
<i>Teja</i> (sharpness or brightness)	-	-	+	-	+
<i>Medha</i>			+		
<i>Sharir-Vrddhi</i> (growth of body)	-	-	-	-	+

**4) JALIYA COMPONENT:** *Jala* is inherited with fluidity (*dravatva*), inherited exclusively with property of *rasa* and cold touch.

**Table no. 4 contents produce from *jala***

Components	Charak <sup>[6]</sup>	Sushruta <sup>[7]</sup>	Vagbhata I [8]	Vagbhata II <sup>[9]</sup>	Kasyapa <sup>[10]</sup>
<i>Rasa</i> (taste)	+	+	+	+	+
<i>Rasanendriya</i> (gustatory system)	+	+	+	+	+
<i>Saitya</i> (coldness)	+	+	+	-	+
<i>Mardava</i> (softness)	+	-	-	-	+
<i>Sneha</i> (unctuousness)	+	+	+	-	+
<i>Shukra</i> (semen)	-	+	+	-	+
<i>Mutra</i> or urine (etc. watery substance)	-	+	+	-	+

<i>Rasa Dhatu</i>	-	+	-	-	-
<i>Kleda</i> (moisture)	+	-	+	+	+
<i>Asrk</i> (blood)	-	-	+	-	+
<i>Vasa</i> or <i>Medas</i> (fat)	-	-	+	-	+
<i>Sweda</i> (sweat)			+		
<i>Mamsa</i> (flesh)	-	-	-	-	+

5) **PARTHIVA COMPONENTS:** *parthiva dravyas* are inherited with qualities like *gaurava* ,*sthairya*, *sanghata* and *upachaya*.

Table no. 5 contents produce from *prithvi*

Components	Charak <sup>[6]</sup>	Sushruta <sup>[7]</sup>	Vagbhata I [8]	Vagbhata II <sup>[9]</sup>	Kasyapa <sup>[10]</sup>
<i>Gandha</i> (smell)	+	+	+	+	+
<i>Ghranendriya</i> (olfactory organs)	+	+	+	+	+
<i>Gaurava</i> (heaviness)	+	+	-	+	+
<i>Sthairya</i> (stability)	+	-	-	-	+
<i>Murti</i> (stiffness or structure of body)	+	+	-	-	+
<i>Kesa</i> (hair)	-	-	+	-	-
<i>Asthi</i> (bones)	-	-	+	+	-
<i>Dhairya</i> (patience)	-	-	+	-	-
<i>Nakha</i> (nails)	-	-	+	-	-

**ATMA:**

*Acharya Dalhana* clarifying the because of *Chetana* the *Garbha* remains alive up to the time of *Prasavakala* (delivery), in absence of this it gets *Kuthita* (putrefied) or *Vishna* (degenerated).

The union of *Shukra* (sperm) and *Shonita* (ovum) and the *Atma* (Soul) in the *Kukshi* (uterus) is designated as *Garbha*

(embryo)<sup>[11]</sup>. It is formed by the five *Mahabhutas* viz. *Akasha*, *Vayu*, *Agni*, *Jala*, *Prithvi* and serves as receptacle of consciousness. The body (*Karma Purush* or *Cikitsya Purush*) is the combination of five elements and *Purush*<sup>[12]</sup>. *Atma* is omnipresent, sustains all the bodies, performs all action (*vishwakarma*) and takes all forms (*vishwarupa*), It is the source of consciousness,

transcends all senses, is united or closely attached and associated with raga dosa etc<sup>[13]</sup>. The sensual perception is the result of interaction between manas and indriyas and due to the consciousness the foetus is more active, quickening occurs, thus the movement of foetus are felt by mother, and many changes occur in the skin of foetus including the production of vernix caseosa, foetus can hear and start to recognize the voice.

#### **IMPORTANCE OF VAYU AND AGNI IN FOETAL DEVELOPMENT:**

According to *Sushruta* the seat of *jyoti* is behind the umbilicus and the *vayu* by its propelling action stimulates this *agni*, which in turn performs development of body. The *vayu* combined with the *agni* and creates the multidirectional channels (upward, downward, and obliquely running) resulting in to the development of the foetus. It also gives the specific shape or features to the foetus<sup>[14]</sup>.

#### **DISCUSSION:**

*Shukra* belongs to *Jala (Saumya)* group, while *Artava* (ovum) represents *Tejas or Agni Mahabhuta*, the other *Mahabhutas* play role in the development of the *Garbha*. In a live *garbha*, *vayu vibhajana* (divides), *teja pachati* (metabolizes), *jala kledayati* (moistens), *prithvi samhanti* (solidifies), *akasha vivardhana* (increase the size) and *atmaja* have the influence on the constitution of the

body. Hence these factors are responsible for the formation and development of *garbha*.

In the development process of embryo the *vayu mahabhuta* to divide the fertilized cell into daughter cells. This simply done the active division of cell i.e. cleavage, blastula. *Teja mahabhuta* restores the metabolic activities. The *aap mahabhuta* keeps the titer of liquidity concentrate and tries to keep active i.e. amniotic fluid. The *prithvi mahabhuta* brings the inner changes which apparently give the changes in shape. *Akash mahabhuta* brings the changes in the size of growing foetus. All these *panchamahabhutas* act simultaneously and promote the attainment of the growing foetus.

When *panchamahabhuta* and *atma* come together *garbha* is formed, hence *garbha* is known as the product of *panchamahabhuta* and the seat of *chetana*.

In the seat of *chetana* the *triguna* and *panchamahabhuta* influence the formation and development of *garbha*.

#### **CONCLUSION:**

The union of *shukra*, *shonita* and the *atma* (soul) in the *garbhashaya* is known as *garbha* (Embryo). These five *Mahabhutas* viz. *Akasha*, *Vayu*, *Agni*, *Jala*, *Prithvi* and serves as receptacle of Consciousness i.e. *atma* are the factor which causing the formation and development of *garbha*. And the entire physical chemical biochemical changes inside



the body are only because of these combinations of *panchamahabhutas*. And because of chetana (atma) the garbha is alive upto the delivery.

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