



## Editorial

ISSN: 2454-5023  
J. Ayu. Herb. Med.  
2016; 2(5): 160-162  
September- October  
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www. ayurvedjournal.com

## Concept of Embryology in Ayurved

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The creation of the foetus is assured if the (1) a good seed is sown, (2) in a moist soil and (3) at the proper season, are presented combine in a proper manner. The creation of all beings is due to the proper union of the seed and field.<sup>[1]</sup> A woman here called Kshetra is really the best aphrodisiac and stimulant for procreation.<sup>[2]</sup> According to Chakrapani, a woman begets a stout son when all essentials viz. the uterus, the path of the ovum, the female and male seed, Vata and the mental state are normal and clear.<sup>[3]</sup>

Ayurved mentions division in the seed which is noteworthy. Ritu extends for twelve nights after the first appearance of the menses, there may not however, in some cases, be any flow of menses.<sup>[4]</sup> It appears in young girls at the age of twelve and ceases at the age of fifty, on account of decay of old age.<sup>[5]</sup>

### Mental characteristics of woman who conceives

The child resembles the first man she sees on the 4<sup>th</sup> day of menstruation. She should therefore look at her husband before she begins the day.<sup>[6]</sup> A woman should have a clear before her mind of the future child she is going to give birth to; keep her mind engaged on it etc.<sup>[7]</sup>

### Effect of good character, habits, diet on foetus

Women who have clean and pure habits and character, and are religious-minded and worship learned Brahmins, give birth to children of extraordinary virtue, those who do not do so, beget children devoid of virtues.<sup>[8]</sup> The child born to a couple partakes of their habits, behavior, activities and food tendencies.<sup>[9]</sup>

### Recollection of previous birth

Those who in their former life were always honestly imbued with truth and learning are born with noble instincts and retain a memory of previous births. A person gets in this life what in his former life he had deserved by his acts. He also acquires those qualities which he had striven for, or to which he was accustomed.<sup>[10]</sup>

### Abnormalities in foetus

These may be due to women, who after her menstrual period dreams of copulation; in this case Vayu may cause the menstrual fluid to flow into her own womb and make her conceive. Such a foetus may grow month by month and be born as Kalala, devoid of bones and muscular tissues, irreligious thoughts of parents and sins of past life excite the Dosha and deform the foetus; defects in fate; time; seed; and diseases of the mother, also cause abnormalities or produce birth defects.<sup>[11]</sup>

### Proper Age and Purity of seeds and organs for Procreation

The seeds in man and woman mature at the age of 25 and 16 respectively. A physician should know this well. If parents are below this age, the foetus does not develop, dies early or becomes deformed.<sup>[12]</sup> A healthy foetus is formed by union with a man of powerful seed by a woman with uninfected vagina, uterus and menses.<sup>[13]</sup>

### Qualities of Shukra and Artava

Shukra (Semen) has the quality of being white like soma and Artava is red like fire. All elements are also present in them in minute degrees. These elements have the natural attribute of helping and

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strengthening each other and intermingling with them.<sup>[14]</sup> Just as a ball of ghee melts when placed near a fire similarly the female seed is set forth in coition with man.<sup>[15]</sup>

### Gharbhavakrati

According to Indu; the commentator of Astanga Sangraha, Vayu releases during copulation, the Tejas energy of the body and this uniting with Vayu, ejects semen. This enters the female passage and combines with Artava. The embryo which develops from this is thus a combination of Soma and Agni and lodges in the uterus.<sup>[16]</sup> It is only when Jiva descends in this combination of Shukra and Artava that a foetus begins to form.<sup>[17]</sup> Jiva is called Kshetrajna and owing to its predestined union with the gross elements and the three qualities i.e Sattva, Rajas and Tamas, it becomes endowed with a character wholly divine or partly so; or demonic and impelled by Vayu, enters the uterus and stays there.<sup>[18]</sup>

### Theories about a male or female issue

During procreation when semen (Shukra) exceeds the female fluid (Artava) in energy, the issue is male; it is a female, when Artava is more powerful. The issue is important when both energies are equally balanced.<sup>[19]</sup> After the period of menstruation is over, coitus on even nights produces a male issue; on odd nights, a female issue is conceived. Those desiring a child should cohabit during the genetic period after purifying themselves properly.<sup>[20]</sup>

### What is Garbha

It is the coalescence of the male and female seeds in the uterus where the soul combines with them intimately along with the eight Prakriti (elementary principles) and sixteen Vikaras i.e. formation of Prakriti.<sup>[21]</sup> The embryo is staled a body only when it is thus developed with hands, feet, tongue, nose, ears, buttocks and other organs.<sup>[22]</sup>

### Method of formation of twins or multiple pregnancy

When Vayu divides the seed itself in two, the twin results. In this process of segmentation, the number of children born is according to the number of division in the primitive Garbha (Shukra- Artava).<sup>[23],[24]</sup> Kalala is the formless mass; when Vayu becomes powerful and divides the mass in two, a twine results.

### Nature of complexion of Garbha

Tejas Dhatu is the cause of the nature of complexion and is determined at the time of co-habitation; the complexion is fair, if this is watery. If is dark, when Tejas assumes an earthy form. It is shady, when this is earthy and partakes of Akash. When Ap and Akash are prominent, it is fair and dark.<sup>[25]</sup>

### Sign and symptom in advanced pregnancy

The nipples of the breasts become dark in colour; breasts develop and grow larger in size, a feeling of movement in the uterus, occurs from the fourth month onwards.<sup>[26],[27],[28]</sup> When a woman conceives, the Garbha blocks the outlets of srotas of the Artava and menstruation disappears. When thus obstructed in the lower part, it accumulates, comes to the upper part of the uterus and forms the placenta (Apara). The rest of Artava rises still upwards in the body and causes the breasts to enlarged, which thus become full and prominent.<sup>[29]</sup>

### Hygiene of Pregnancy

If a limb or organ of the mother gets deranged on account of

excitement of the Dosha, the same derangement occurs in the foetus.<sup>[30]</sup> A woman desiring therefore to have a good progeny should avoid all causes of derangement of Dosha e.g. food and adopt modes of behavior suited to her condition.<sup>[31]</sup> Acharya of Ayurved has described the monthly development of Garbha in each month.<sup>[32-44]</sup>

### Excretion, respiration and crying in Intra-uterine life

The excreta are very little in the foetus and Vayu finds no entrance to its colon. It does not therefore defecate, nor urinate, nor pass wind when in the womb. The mouth of the foetus is covered by Jarayu, the child does not breathe nor cry in the foetal life. The acts of respiration, movement and sleep are performed by the foetus through similar acts of the mother herself.<sup>[45]</sup>

### Natural Position of the foetus in the uterus

It lies in the uterus with all its body parts bent, the head directed downwards and the face to the back of the mother. At delivery, therefore, it naturally descends head-foremost. This position enables it to occupy the smallest space in the uterus.<sup>[46],[47]</sup>

### Nutrition and development of the foetus in the uterus

Nutrition of the foetus commences from the moment of conception, when even primary and secondary organs have not appeared. The life juices are supplied by Rasa- carrying Dhamanis (channels), which go obliquely and are connected with every organ of the body.<sup>[48]</sup> The cord develops and starts from the navel of the foetus and is attached to the placenta, which again is connected indirectly to the heart of the mother. It then passes to the Pakvashaya, where it is acted upon by the heat of the foetal body, becomes more vitalized and is enabled to nourish all its own tissues.<sup>[49],[50]</sup> The parts that contribute in the construction of the foetus are the father, the mother, he nourishing and the vital force, the mental faculty and the assimilation.<sup>[51]</sup> The contribution of five gross elements.<sup>[52]</sup>

### Diagnosis of sex of the foetus

The child will be a male when the mother gets secretion first in the right breast, has heaviness of eye, walks with right foot forward, desires articles with a masculine name etc. The child is a female, if the opposite conditions are found. When the middle part of the abdomen sinks inwards like a saucer, twins may be present.<sup>[53]</sup>

### CONCLUSION

Knowledge of embryology is very useful for the benefits of the physicians since the ancient era. Ayurved has the in depth material about the embryology and its all the aspects. This review will provide the information about the Ayurvedic embryology for the further future research.

**Previous publication / presentations:** Nil

**Source of support – Nil**

**Conflict of interest – None declared**

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#### HOW TO CITE THIS ARTICLE

Amin H, Sharma R. Concept of Embryology in Ayurved. J Ayu Herb Med 2016;2(5): 160-162.