

## GARBHA POSHAN BY UPSNEHA AND UPSWEDA- A CONCEPTUAL REVIEW

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### ABSTRACT

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*Ayurveda* is a profound science of living that encompass the whole life. Ancient philosophies serves as basis of *Ayurveda*. Science of *Ayurveda* is the outcome of human curiosity for all the facts mentioned by our *Acharya's* in ancient times require in depth study and research. *Ayurveda* places a strong emphasis on disease prevention and maintenance of health. By adhering to some *Ayurvedic* regimens this goal can be accomplished. The concept of *Garbhini Pricharya*, *Masanumasik Vridhi Krama*, *Garbha Poshan* along with applied aspect is explained by our *Acharya's* for the healthy progeny. Embryology in *Ayurveda* is described in terms of *Garbha Sharir* that explains various

concept from *Garbha Uttpati* upto *Garbha Nishkraman*. *Garbha* relies on its mother for nutrition. Malnutrition results in various disorders in foetus like IUGR, IUD etc. *Garbha Poshan* in *Ayurveda* before the *Apara Nirmana*, occurs through the *Upswedan* and *Upsnehan* of *Ahara Rasa* by *Nabhinadi* which is attached with mother's body.<sup>[1]</sup> Numerous quotation related to *Garbha Poshan* found in commentaries of *Brihatrayi* need appropriately interpreted in order to provide useful information to the modern world. This study is an attempt to elaborate and compare both ancient and modern concept of *Garbha Poshan*.

**KEYWORDS:** *Garbha*, *Garbhaposhan*, *Nabhinadi*, *Upsneha*, *Upsweda*.

### INTRODUCTION

Our *Ayurvedic Samhita* has a specific section known as *Sharir Sthan* that describe the entire process of embryonic development. *Sharir Sthan* describe anatomical aspect of body. Embryology is described in terms of *Garbha Sharir*. The key to reveal mysteries like

heredity, evolution is embryology. It develops a thorough and logical justification for complex human anatomy. *Garbha* is where the knowledge of *Sharir* begin. In *Ayurveda* *Garbha* is defined as union of *Shukra Shonita* along with *Atma*, *Prakriti Vikara* in *Garbhashaya* of mother.<sup>[2]</sup> The *Sharir Sthan* in *Ayurvedic* treatise provide a systematic explanation of topic related to *Garbha Poshan*. The different facts responsible for producing healthy offspring are thoroughly described in *Ayurvedic* scripture. Nutrition play very important role in healthy offspring. The *Garbha Poshan* have been minutely observed and described in our *Vedic* literature. *Garbha* totally depend on mother for its nutrition. On basis of *Apara* formation, *Garbha Poshan* divided into two stages. *Upsnehan and Upswedan* is the process of providing nutrition to developing foetus. *Rasa* play important role in *Garbha Poshan*, it divided into 3 part one for nourishment of mother's body, for foetal nourishment and for stimulate the secretion of breast milk.<sup>[3]</sup> *Garbha Nabhinadi* attached with *Rasavaha Nadi* of mother through which foetus receive nutrition.

## MATERIAL AND METHODS

All sorts of references regarding *Garbha Poshan* are compiled from various available *Ayurvedic* classics text like *Sushruta Samhita*, *Charak Samhita*, *Ashtang Hridaya*, *Ashtang Sangraha* *Ayurvedic* commentaries and modern books like DC. Dutta text book of Obstetrics, Embryology etc. Review articles, journals, etc.

## DISCUSSION

According to *Acharya Charak* if all six aspects of conception (i.e *Matrija*, *Pitrija*, *Rasaj*, *Satwaj*, *Satmya*, *Aatmj*) are normal and pregnant women follow a healthy diet, the foetus will receive sustenance from mother's *Ahar Rasa* by the process of *Upaneha* and *Upsweda*. Foetus is totally dependent upon mother, even for the expression of hunger and thirst. Before the conspicuity of body parts *Garbha* takes its subsistence by *Upsneha* and *Upsweda* in the *Garbhashaya*.<sup>[4]</sup>

Afterward when its body parts are conspicuous, it obtain nourishment from *Upsneha* permeating through pores of skin situated in hair roots of the body and some parts through the passage of umbilical cord. The foetal umbilicus is attached to the umbilical cord, umbilical cord to the placenta and placenta to mother's heart. The mother's heart immerses the placenta through running and oozing vessels. Mother's diet contain all the *Rasa* and it give strength and complexion to the developing foetus. *Acharya Charaka* further explain the point that *Rasa* formed in mothers's body perform three functions. Nourishment of the women's body,

formation of milk, nourishment of foetus. *Acharya Sushruta* has explain that foetal umbilical cord attach to the mother's *Rasavaha Nadi* carrying the essence of mother's diet and foetus develop by obtaining nourishment through *Upsneha*. From the time of conception upto the period until the body parts of foetus are not fully conspicuous, it get sustenance by *Upsneha* through the vessels running obliquely.<sup>[5]</sup>

*Acharya Indu* has explained that unctunousness is *Upsneha* and moistening is *Upweda*.<sup>[6]</sup> *Acharya Dalhana* uses the analogy that tree located on the bank of a river receives its nutrition, similarly foetus also receive its nourishment.<sup>[7]</sup> Further *Acharya Vagbhatta* says that foetal nourishment takes place by *Kedarikulya Nyaya*.<sup>[8]</sup> According to this theory nourishment of the tissues can be compared to irrigation of fields by water from a canal.

As per modern science, fertilization is the process of fusion of spermatozoon with mature ovum and result in the formation of single cell structure called zygote. The foetus is a separated physiological entity and it takes what it needs from the mother even at the cost of reducing her resources. Completion of embedding of blastocyst and establishment of nutritive relationship with maternal blood vessels- By 12<sup>th</sup> day of fertilization, the blastocyst has completely embedded in the endometrium. Spaces appear in the syncytiotrophoblast that will fuse to form larger lacunae. The syncytiotrophoblast cells erode the maternal capillaries, which become congested and dilated to form sinusoids. This contact between syncytiotrophoblast and maternal sinusoids initiates nutritive relationship between foetus and mother.<sup>[9]</sup> This connection permit the maternal blood to enter into lacunar system. Nutrition is now obtained by aerobic metabolic pathway from maternal blood.<sup>[10]</sup> This process can be compared with *Upweda* as mention by our *Acharya's* before the conspicuity of body parts *Garbha* takes its subsistence by *Upweda* in the *Garbhashaya*. The decidua is the endometrium of pregnant uterus it provide nutrition in early stage of growing ovum by its rich sources of glycogen and fats.<sup>[11]</sup> Decidua is the functional stratum (stratum compactum) of uterine endometrium after the implantation of blastocyst. After implantation changes in endometrium is under the influence of the hormone the human chorionic gonadotropin (hCG) which is secreted by the cells of syncytiotrophoblast. Due to this stromal cells enlarge, become vacuolated and filled with glycogen and lipids. The glycogen and lipids provide nutrition to the early embryo until the placenta takes over this function.<sup>[12]</sup>

The placenta consist two plates chorionic plate in which umbilical cord attached and another basal plate lies in maternal aspect in between two plates intervillous space lies that filled by mother blood. Villie present in these area help in absorption and nutrition. Mechanism involved in transfer of substances across placenta are by simple and facilliated diffusion, active transfer. Water and electrolytes transfer through simple diffusion. Glucose by facilliated diffusion, amino acid by active transport.<sup>[13]</sup> Skin at 16th week, lanugo (downy thin colorless hairs) appears but near term almost completely disappears. Sebaceous glands appear at 20th week and the sweat glands somewhat later. The horny layer of the epidermis is absent before 20th week which favours transudation from the fetal capillaries into the liquor amnii.<sup>[14]</sup> It can be regarded as *Upsneha* as mention by *Acharya Charak* after foetal organ develop, a part of nutrition is received by *Upsnehan* that is by permeation through the pore of skin situated in the *loam koop* (hair follicles).<sup>[15]</sup> And transport of lipids and glucose present in plasma and during implantation the proteolectic activity of trophoblastic cells, activity of chorionic villie can be consider as *Upsneha*.

The foetal *Nabhinadi* is attached to mother's *Rasavahanadi* carrying *Matrij Ahara Rasa Viryam* and *Garbha* grow by obtaining nourishment from through *Upsneha*. It can be correlated as *Matrija Ahara Rasa* is as essence of mother's diet that is carbohydrate, fats proteins, vitamins oxygen present in mother's blood. *Viryam*, the potency of mother's diet can be considered as immunoglobulins that passes from mother's blood to foetus.

## CONCLUSION

The two words *Upsneha* and *Upsweda* are used to define the process of foetus nourishment. Before implantation, zygote gets it's nutrition from the cytoplasm of fertilized ovum and exudates of uterine cavity till implantation but before placenta formation through the chorionic villie present all over embryonic surface. In the initial stage of foetal development nutrient from mother to developing foetus occur via the process of simple and facilitated diffusion (*Upsneha*) through the lacunar system and transport of glycogen and fat through stromal cell this can be compared with process of *Upsweda* as explained by *Achrarya Vagbhatta (Kedarikulya Nyaya)*. According to this theory nourishment of the tissues can be compared to irrigation of fields by water from a canal. At 16<sup>th</sup> week of intrauterine life lanugo appear, and horny layer is absent before the 20<sup>th</sup> week of gestation that favours process of transudation which can be compared with the *Upsneha* as explained by *Acharya Charak* i.e., permeation through pores of skin situated in hair roots.

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