



A REVIEW ARTICLE ON OLIGOHYDRAMNIOS IN VIEW OF AYURVEDA

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ABSTRACT

Oligohydramnios is a common clinical condition among pregnant women. It has direct effects on maternal and fetal outcomes. Fetal protection, development, and lung maturation depend on amniotic fluid. The condition is clinically diagnosed by an amniotic fluid index (AFI) of less than 5 cm or a single deepest vertical pocket of less than 2 cm. Oligohydramnios can cause fetal development restriction, premature birth, cord compression, labor induction, and cesarean delivery. There is no direct reference of *Garbhodaka kshaya* in *Ayurvedic* classics but there is a reference of *garbhakshaya*. According to *Ayurvedic* texts, this disease is linked to *Garbhodakavikriti*, an amniotic fluid disruption. *Garbhodaka kshaya* and *garbhakshaya*^[1] are associated simultaneously as studies have shown very low values of amniotic fluid are associated with intrauterine growth restriction(IUGR).^[2] *Ayurveda* also mentioned certain diseases related to fetus i.e. *Upavishtaka*, *Garbhshosha*, *Nagodara* and *Leena Garbha*. *Acharya Sharangdhara* described *Nagodara*, *Gudhagarbha* and *Upavishtaka* under category of *Ashtagarbhavyapada*. Classical *Ayurvedic* writings suggest internal and exterior remedies for oligohydramnios to restore balance and encourage fetal development. Present article exploring *Ayurvedic* view of oligohydramnios and related *ayurveda* terminologies.

KEYWORDS: Oligohydramnios, *Garbhavyapad*, *Upavishtak*, *garbhashosh*, *nagodara*.

INTRODUCTION

Pregnancy is a transformative and sensitive phase in a woman's life, where the nourishment and care of both the mother and the developing fetus are paramount. The fetus relies entirely on the mother for its nutritional needs, either through the constitution or through diet. If the mother lacks adequate nutrition, it may lead to suboptimal growth and development of the fetus. *Ayurveda* recommends many life style and dietary regimens to prevent complications and diseases. The concept of *Suprajajana* is the prime concern of *Ayurveda* since long time. In fact most of the care of pregnant women is attributed towards the well being of fetus.

Amniotic fluid surrounds the fetus during development and has many functions. It creates a physical space for fetal movement, which is necessary for normal musculoskeletal development. It permits fetal swallowing, which is essential for gastrointestinal tract development, and fetal breathing, which is necessary for lung development. Amniotic fluid guards against umbilical cord compression and protects the fetus from trauma. It even has bacteriostatic properties. Amniotic fluid volume increases From approximately 30 ml at 10

weeks to 200 ml by 16 weeks, reaching 800 ml by mid-third trimester.^[3] The normal range for commonly used AFI is 8 to 24 cm.^[4] A lack of amniotic fluid around the fetus during pregnancy is called oligohydramnios. Oligohydramnios is clinically defined by an amniotic fluid index (AFI) of less than 5 cm or a single deepest vertical pocket of less than 2 cm on ultrasonography.

Ayurveda calls amniotic fluid *Garbha Ambu*, which protects and feeds the fetus. *Garbhodakavikriti* is any pathology influencing this fluid's quality or quantity. Classical writings stress the importance of balancing the three *Doshas*, nourishing the fetus with *Rasa Dhatu*, and optimizing the reproductive system. *Garbhodakavikriti* is caused by *Vata* and *Pitta* imbalances. When inflamed, *Vata* causes dryness (*Rookshata*) and fluid depletion, whereas *Pitta* causes excessive heat (*Ushna*) and amniotic fluid drying. Modern understanding of oligohydramnios suggests maternal dehydration, placental insufficiency, or fetal renal problems, etc. can limit amniotic fluid. Maintaining normal amniotic fluid index is crucial for normal fetal growth. In *Ayurveda*, while the condition is not directly mentioned as "oligohydramnios," similar features can be mapped to *Garbhashaya Kshaya*, *Shoshana*, or *Garbha Upadrava*

due to *Vata dosha* vitiation. The symptoms of oligohydramnios, like decreased fetal movement, easily palpable but complex to ballot fetal parts per abdominally, can be related to *Manda Spandana* or *Aspandana* (decreased or absent foetal Movement mainly due to the reduced amniotic fluid), *Anunnatakukshita* or *Maturkukshi na purayanti* (not as per gestational age) like symptoms of *Garbhashosha* ~foetal emaciation) and *Garbhakshaya* (foetal growth restriction) described by *Acharya Sushruta*.^[5] In *Ayurveda*, disorders related to fetal development are grouped under *Garbhavyapada*, a term derived from “*garbha*” (fetus) and “*vyapada*” (to harm or destroy). This concept encompasses a range of fetal disorders that may impair or even jeopardize the fetus during pregnancy. The related terminologies of oligohydramnios; *Garbhashosha*, *Upavishatak* and *Nagodar* described in *Ayurveda*. These conditions can arise from physical ailments, hormonal imbalances, nutritional deficiencies, or other factors affecting both the fetus and the pregnant woman. *Ayurvedic* texts suggest several therapeutic approaches for managing *garbhavyapad*.

Oligohydramnios has become a significant issue globally due to lifestyle and dietary changes, leading to insufficient maternal nutrition. Contemporary medicine's available treatment with amino acids lacks proven efficacy, highlighting the need for alternative approaches. Timely diagnosis and management of oligohydramnios is one of the major achievements in contemporary obstetrics. If the oligohydramnios is identified and appropriate management instituted, perinatal mortality can be reduced.

This review aims to explore *Ayurvedic* interpretations, probable causes, and treatment modalities of oligohydramnios based on classical texts.

MATERIAL AND METHODOLOGY

It is literary review to study Oligohydramnios from various *Ayurvedic* texts.

LITERARY REVIEW

Ayurveda regulates fetal growth and fluid production with *Garbhashayastha Kapha*. *Kapha* depletion owing to *Vata* and *Pitta* imbalances may diminish nourishing fluid production, including amniotic fluid, *Vata-Pitta* imbalance disrupts *Srotas*, causing placental insufficiency. Decrease in amniotic fluid and growth restrictions result from improper *Rasa* (nutrient) supply. Although there is no direct diagnostic method like ultrasonography in *Ayurveda*, symptoms of uterine dryness, reduced fetal movements, and improper nourishment can be identified by examining the mother's general health, pulse diagnosis (*Nadi pariksha*), and *Dosha* imbalance. A diet rich in *Madhura rasa* (sweet foods) and *Drava* (liquids) including milk, ghee, and water hydrates and nourishes *Rasa Dhatu*. Rice, wheat,

and ghee help to maintain fluid balance and fetal growth. Adequate rest is crucial to avoid *Vata* aggravation.

The uterus provides essential environment for the fetus. The fetus is composed of five elements (*mahabhutas*): *vayu* (air), *agni* (fire), *aap* (water), *pruthvi* (earth), and *aakash* (space), along with consciousness (*chetana*), all of which play distinct roles in the development and growth of the fetus.^[6] For a successful conception and healthy fetal development, *Ayurveda* emphasizes the importance of our key factors: the fertile period (*ritu*), the health of the womb (*kshetra*), nourishment (*ambu*), and the genetic material from both the sperm and ovum (*beeja*). These elements must be balanced for the well-being of the fetus. In *Ayurveda*, the three trimesters of pregnancy correspond to the dominance of different *doshas*. In the first trimester, *kapha dosha* is dominant, promoting nourishment and growth. The second trimester sees *pitta dosha* take precedence, aiding in the development and metabolic processes. In the third trimester, *vata dosha* dominates, facilitating the fetus's movement and the mother's readiness for labor. The *dhatu*s or tissues, are vital for sustaining and growing the body. The *rasadhatu* plays a crucial role in fetal nourishment, circulating fluid substances like lymph and plasma, which nourish the fetus through the *rasavaha srotas*, channels that transport nutrients throughout the body. *Garbha poshana* refers to the nourishment provided to the fetus via the umbilical cord and placenta, with the mother supplying vital nutrients through metabolic processes such as *upasneha* (exudation) and *upasweda* (thermoregulation).^[7] The pathogenesis involves a vitiation of *vata dosha* which causes obstruction in the *rasavaha srotas*, impairing the nourishment of the fetus and leading to Oligohydramnios or intrauterine growth restriction (IUGR).

The related terminologies of Oligohydramnios are described in *Ayurveda* in classical texts in the form of *Shlokas* which are as follows:

A) गर्भशोष Or वाताभिपन्न गर्भ (Garbhashosh or vatabhipanna garbha)

आहारमाप्नोति यदा न गर्भः, शोषं समाप्नोति परिस्त्रुति वा ।

तं स्त्री प्रसूते सुचिरेण गर्भ, पुष्टो यदा वर्षगणैरपि स्यात् ॥

(च० सं० शा० २/१५)

वाताभिपन्न एव शुष्यति गर्भः । स मातुः कुक्षि न पूरयति मन्दं स्पन्दते च । (सु० सं० शा० १०/५७)

यदा तून्मार्गगो वातो गर्भस्य रसवाहीनि स्रोतांसि शोषयति तदा वातरोगी हीनो जायते बहूनि वा वर्षाण्युदरे तिष्ठति ॥

(अ० सं० शा० २/३७)

Due to non-availability of proper diet (nourishment) to the fetus or vaginal discharges (bleeding) after conception the fetus suffers from *shosha* (emaciation or dryness). This fetus attains its proper growth or maturity after years and the woman delivers it after years or

prolong delay. *Vayu* is also said to be a cause for dryness of fetus.

Sushruta opines that due to affliction by *vayu* the fetus gets dried up, does not fill properly the mother's abdomen and quivers very slowly. *Dalhana* elaborating the etiology says that due to effect of *vayu* the fetus has absence of *ojas*. Further quoting *Vruddha Kashyapa* writes that the *rasa* either flows slowly or does not flow in the *rasavaha nadi* of fetus thus it develops very slowly. The upwards moving *vayu* dries *rasavahi* channels of the fetus, thus it suffers from *vata* disorders, becomes emaciated and remains in uterus for years together is the opinion of *Vagbhata I*. *Vagbhata II* opines that *vayu* dries the fetus.

B) उपविष्टक गर्भ (Upavishtaka garbha)

यस्याः पुनरुष्णतीक्ष्णोपयोगादगर्भिण्या महति संजातसारे गर्भे पुष्पदर्शनं स्यादन्यो वा योनिस्त्रावस्तया गर्भो वृद्धिं न प्राप्नोति निःस्त्रुतत्वात्, स कालमवतिष्ठतेऽतिमात्रं, तमुपविष्टकमित्याक्षते केचित् ।

(च० सं० शा० ८/२६)

सञ्जातसारे महति गर्भे योनिपरिस्त्रवात् ।

वृद्धिमप्राप्नुवन् गर्भः कोष्ठे तिष्ठति सस्फुरः ।

उपविष्टकमाहुस्तं, वर्धते तेन नोदरम्॥

(अ० ह० शा० २/१४, १५)

After some development and attainment of *sara* (after fourth month) by the fetus if bleeding per vaginam or other types of vaginal discharges occur due to use of pungent and hot articles by the pregnant woman, then the fetus does not grow properly due to these discharges, and stays in the uterus for a very long time. This condition is termed as *upavishtaka*.

Vagbhata I mentioning the causes of *upavishtaka* and *upashushka* both together writes that after attainment of *sara* by the fetus if woman uses contraindicated articles, bleeding per vaginam or other vaginal discharges start. *Vata* aggravated due to this bleeding withholding *pita* and *shleshma* compresses the *rasavaha nadi* of the fetus. Because of this obstruction to *rasavaha nadi* causing improper flow of *rasa*, the fetus does not develop properly and becomes *upavishtaka* or *upashushka*, in the same way as the paddy does not grow properly if the water does not reach the field due to obstruction with leaves and grass etc. to its flow in the supply-channels. Further giving specific etiology of *upavishtaka* he writes that when the woman gets scanty but continuous bleeding per vaginam, then the fetus without decreasing in its size continues the quivering. *Kukshi* (uterus) does not increase in size. Identical is the opinion of *Vagbhata II*. *Arunadata* specifying the period of disease says that it occurs when the fetus has become *balawana* (strong i.e. 5th or 6th month).

C) नागोदर or उपशुष्क गर्भ (Nagodara or upashushka garbha)

उपवास्रतकर्मपरायाः पुनः कदाहारायाः स्नेहद्वेषिण्या वातप्रकोपणोक्तान्यासेवमानाया गर्भो वृद्धिं न प्राप्नोति परिशुष्कत्वात्; स चापि कालमवतिष्ठते अतिमात्रम्, अस्पन्दनश्च भवति, तं तु नागोदरमित्याचक्षते ॥ (च० सं० शा० ८/२६)

The woman who often observes fasts, eats stale food, does not take fat and uses other *vata* vitiating articles, her fetus gets desiccated and does not grow. This fetus remains in the uterus for a very long time and does not quiver. This entity is termed as *nagodara*. *Vagbhata* giving specific etiology (general described under *Upavishtaka*) of *upashushka* says that when the pregnant woman gets excessive bleeding either daily or monthly, then the fetus decreases in size and quivers very slightly, size of abdomen also decreases. This entity is called *upashushka* or *nagodara*.

Vagbhata II says that either due to grief, fasting and use of dry articles or due to excessive bleeding the vitiated *vayu* producing emaciation of fetus destroys it or desiccates it. This is called *nagodara*. In this condition size of abdomen also decreases and quivering of fetus is delayed.

D) गर्भक्षय (Garbhakshaya)

गर्भक्षये गर्भास्पंदनमनुन्नतकुक्षिता च । (सु० सं० सू० १५/१२)

In *garbhakshaya* absence of quickening and decrease in height of uterus are the clinical features.

There is no direct reference of *Garbhodaka kshaya* in Ayurvedic classics but there is a reference of *garbhakshaya* and other diseases of fetus i.e. *Garbhavyapad*. So the treatment given for *garbhavyapada* like *garbhakshaya*, *Upavishtaka* and *nagodara* will ultimately nourishes the growing fetus which in turn contribute to production of good amount of amniotic fluid.

Treatment principles are divided into *Samanya Chikitsa* (general treatment) and *Vishesha Chikitsa* (specific treatment). General treatment includes the use of nourishing and *vatahara* substances like *ghrita* (medicated clarified butter) and milk, while specific treatments focus on medicated *ghrita* and *Aamgarbha Basti* (a special enema) to improve fetal growth.^[8] In *Ayurveda* for the Management of *garbhakshaya*, *Acharya Sushruta* has mentioned the usage of *Ksheera Basti* (medicated milk Enema) and *Medhya dravyas* from 8th month onwards to nourish the growth restricted fetus. Many formulations of some *dravyas* having *brimhan*, *Shita virya*, *madhura rasa* and *madhur vipak*, *vrishya*,

medhya properties and Anabolic effects which can be used for the management of *Upavishtaka* (Intra uterine growth restriction and Oligohydramnios).

CONCLUSION

Early detection and individualized care for Oligohydramnios are crucial for improving fetal and maternal outcomes. *Ayurveda* can be considered an effective alternative medicine for maintaining the amniotic fluid as it all nourishes the fetus. *Ayurvedic* treatments, tailored to individual needs, can contribute to the restoration of amniotic fluid balance and support the well-being of both the mother and the developing fetus. However, further research is necessary to establish the efficacy and safety of these interventions, ensuring comprehensive care for pregnant patients.

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