



A CONCEPT ON EFFECT OF VIDARYADI GANA KSHEERAPAKAM IN PREVENTION OF OLIGOHYDRAMNIOS/ IUGR (INTRAUTERINE GROWTH RETARDATION) AND LOW BIRTH WEIGHT

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Abstract

Oligohydramnios is a rare condition where the liquor amnii (amniotic fluid) is deficient in amount to the extent of less than 200ml at term. This condition can be considered as *jarayudoshaja janya garbhodaka nyunata* according to Ayurveda. There is no much information in Ayurveda regarding various conditions of amniotic fluid. Hence as per modern etiology, pathology and complications of the condition, treatment shall be planned. Intrauterine growth retardation (IUGR) or fetal growth restriction (FGR) is said to be present in those babies whose birth weight is below the 10th centiles of the average for the gestational age. Maternal, fetal, placental and unknown factors contribute for the fetal growth restriction. According to Ayurveda, *garbha sosha* occurs due to non-availability of proper diet (nourishment) to the fetus or bleeding after conception and the fetus suffers from *sosha* (emaciation or dryness). According to Ayurveda, *garbha vridhhi* depends on factors like *upasneha*, *upasweda*, *kaala*, *swabhava siddha* and *karma*. *Vidaryadi gana kashayam* contains drugs that are *vatasamakam*, *balyam*, *brimhanam*, *vrushyam*, *vasti sodhanam* and *rasayanam* which play a major role in both increasing and maintaining the adequacy of the amount of amniotic fluid and cause proper *garbha vridhhi*. Low birth weight infant is defined as one whose birth weight is less than 2500g irrespective of the gestational age. The factors influencing the low birth weight of the baby are socio-economic status, nutritional and intrauterine environment. This article is mainly focused on the prevention of the reduction in the amount of amniotic fluid, intrauterine growth retardation (IUGR) and low birth weight both in the cases of previous history of oligohydramnios, IUGR and low birth weight as well as a part of *garbhini paricharya*.

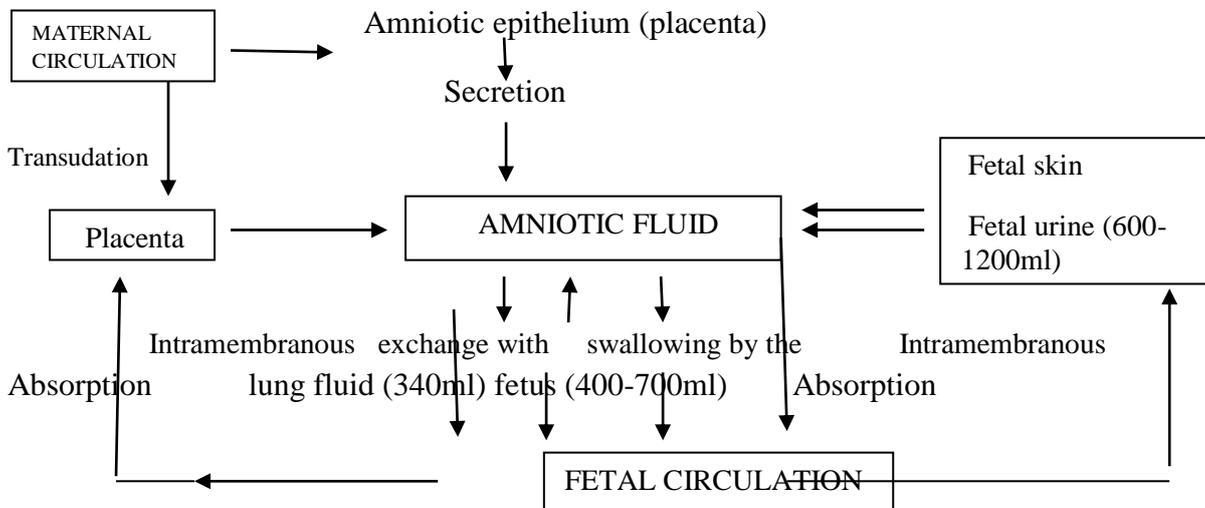
Key words: Oligohydramnios, intra uterine growth retardation, low birth weight, *garbha*

sosha, *jarayu doshajanya garbhodaka nyunata*, *Vidaryadi gana kashayam*.

INTRODUCTION

Amniotic fluid¹ - The precise origin of the liquor amnii is still not well understood. It is probably of mixed material and fetal origin. The water in the amniotic fluid is completely changed and replaced in every 3 hours as shown by the clearance of radioactive sodium injected directly into the amniotic cavity. The presence of lanugo & epithelial scales in the meconium shows that the fluid is swallowed by the fetus and some of it passes from the gut into the fetal plasma.

Flowchart – The source and circulation of amniotic fluid



Volume: Amniotic fluid volume is related to gestational age

50ml – 12 weeks
400ml – 20 weeks
1 liter – 36-38 weeks
600 – 800ml – at term
Reduces about 200ml by 43 weeks

Function: Its main function is to protect the fetus.

During pregnancy

- It acts as a shock absorber, protecting the fetus from possible extraneous injury.
- Maintains an even temperature
- The fluid distends the amniotic sac and thereby allows for growth and free movement of the fetus and prevents adhesion between the fetal parts and amniotic sac.

Treatment

1. Check for the fetal congenital malformation
2. Oral administration of water and other fluids increases amniotic fluid volume.

Oligohydramnios²

Definition: It is an extremely rare condition where the liquor amnii is deficient in amount to the extent of less than 200ml at term.

Etiology: A. Fetal conditions – fetal chromosomal or structural anomalies, intrauterine infection etc.

B. Maternal conditions – Hypertensive disorders, Utero-placental insufficiency, dehydration etc.

Complications: Fetal - Abortion, deformity due to intra-amniotic adhesions or due to compression, cord compression etc.

Maternal- Prolonged labor due to inertia, increased operative interference due to malpresentation.

Intrauterine growth retardation (IUGR)/FGR (fetal growth)/ chronic placental insufficiency³

Definition: Fetal growth restriction (FGR) is said to be present in those babies whose birth weight is below 10th centiles of the average for the gestational age.

Etiology: Maternal, Fetal, Placental and Unknown

Maternal – Maternal nutrition before and during pregnancy, maternal diseases – anemia, Hypertension etc., toxins – alcohol, smoking, drugs etc.

Fetal – Structural anomaly, chromosomal abnormality, infection, multiple pregnancies.

Placental – poor uterine blood flow to the placental site for a long time ex. Placenta previa, abruptio placenta etc.

Unknown - 40%

Low birth weight (LBW)⁴

- Low birth weight infant is defined as one whose birth weight is less than 2500g irrespective of the gestational age.
- The factors influencing the low birth weight of the baby are socio-economic status, nutritional and intrauterine environment.
- According to UNICEF, low birth weight (LBW) infants < 2.5kg accounts for 40% in India.
- LBW affects 8.3 million infants or 30% of births in India.
- 71% of infants are not weighing normally at birth.
- LBW rate is 28.2% (IUGR – Intra uterine growth retardation) and only 3.8% are result of preterm babies.
- LBW have mortality rates up to 20 times higher than non- LBW.

Principles of treatment for oligohydramnios

- Check the cause and treat accordingly.
- Increase the amount of amniotic fluid
- Prevention of the condition before it occurs.

Principles of treatment for intrauterine growth retardation/ low birth weight

- Treat the cause
- *Jeevaneeya, brimhaneeya* and unctuous articles – Charakacharya and Vagbhatacharya.
- Soft, unctuous articles and meat soup.

Garbha vriddhi (fetal nourishment) according to Ayurveda occurs due to⁵

- *Upasneha*
- *Upasweda*
- *Kaala*
- *Swabhava siddha*
- *Karma*

Charakacharya says that with the normalcy of all six factors (*matrujadi 6 bhavas*) and use of appropriate diet (*aahaara*) along with mode of life (*vihaara*) by pregnant woman, the fetus obtaining its nourishment from *rasa* (supplied by the mother) by the process of *upasneha* (attracting moisture) and *upasweda* (osmosis) and influenced by time factor (*kaala*) along with its own nature (*swabhava siddha*) or desires (*karma*) grows normally. When fetal body parts are conspicuous, a part of nourishment is obtained by *upasneha* permeating through pores of skin situated in hair roots of the body and a part through the passage of umbilical cord. The fetal umbilicus is attached to the umbilical cord, umbilical cord to the placenta and placenta to the mother's heart. The mother's heart immerses the placenta (with blood) through running and oozing vessels. Mother's diet contains all the *rasas*, thus the *rasa* derived from this diet gives strength and complexion to the fetus and the fetus deriving its sustenance from this *rasa* remains alive and develops in the uterus.

Susrutha explains that inspiration, expiration, activity and sleep of fetus are dependent upon the mother (*paratantra*). The fetal umbilical cord is attached to the maternal *rasavahanadi* carrying the essence of mother's diet and the fetus grows through *upasneha*. From the time of conception upto the period until the fetal body parts are not fully conspicuous, it gets its sustenance by *upasneha* through the vessels running obliquely into all body parts. Bhoja says that fetal nourishment takes place by *kedarakulya nyaya*. Indu has explained that unctuousness is *upasneha* and moistening is *upasweda*. Arunadatta explained that *upasneha* occurs through *lomakupa*.

Garbhasosha

1. आहारमाम्नोति यदा न गर्भः शोषं समाम्नोति परिस्रुति वा . . . च.शा.2/15

Due to affliction by *vaayu* the fetus gets dried up, does not fill the mother's abdomen properly and quivers very slowly⁶.

According to Vriddha Vagbhata the *rasa* either flows slowly or does not flow in the *rasavahanadi* thus it develops very slowly.

Vidaryadi gana kashayam⁷ – contains *vidari*, *panchangula*, *vrishchikaali*, *vrishchiwa* (*punarnava*), *sahadeva*, *viswadeva*, *mudga parni*, *mashaparni*, *laghupanchamula*, *kandukari*, *sariva* and *tripadi* (*hamsaraja*).

Discussion:

- *Vidaryadi gana* contains drugs that have qualities like *balya*, *brimhana*, *rasayana* which are bulk promoting and also increase the *dhatu*s.
- The drugs that contain *deepana* and *pachana gunas* will facilitate good quality of *ahara rasa*.
- Maintains the adequacy of amniotic fluid preventing oligohydramnios.
- Prevents IUGR by supplying proper nourishment to mother and from mother to fetus.
- Prevents low birth weight of baby by providing adequate diet to mother before and during pregnancy.
- As the ingredients of *vidaryadi gana* are *vata samaka* and if *ahara* and *vihara* also are given that prevent dehydration (*sosha*) and increase hydration will prevent oligo hydramnios and other conditions.

- *Ahara* that contains *snigdha and tarpana guna* will prevent IUGR and low birth weight.
- Before conception *ritu, kshetra, ambu* and *beeja* should be properly observed and adequately maintained.
- *Ksheerapaka* which is in liquid form will increase the quantity of amniotic fluid and milk having *madhura rasa; guru, snigdha guna; Sheeta veerya; Madhura vipaaka; Vatapitta saamaka, jeevaneeya, rasayana, ojovardhaka, raktapittahara, vrushya, garbha sthaapaka karma* - will work on all the above conditions.
- *Ksheerapaka* may also help in promoting *upasneha, upasweda*, quantity and quality of *ahara rasa*, fetal urine that contribute to the amniotic fluid and also helps in nourishing fetus preventing IUGR and low birth weight.

Summary & Conclusion

- It is understood that all the 3 conditions – oligohydramnios, intrauterine growth retardation and low birth weight may be prevented.
- Vidaryadi gana siddha kashayam contains various qualities (*gunas*) that help in preventing the above 3 conditions.
- Ksheera itself has many qualities like *vatasamaka, rasayana and garbhasthapana* that help in nourishment and growth of the fetus as well as help in maintaining the adequacy of amniotic fluid.
- Hence *vidaryadi gana siddha ksheerapakam* may be very useful in preventing oligohydramnios, intrauterine growth retardation and low birth weight and also may be used during antenatal period as a part of garbhini paricharya.

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