

# Management of Intrauterine Growth Restriction in Ayurveda

Dr Shipra

Lecturer, Prasuti Tantra & Stri Roga, LBS Ayurvedic College & Hospital Handia, Allahabad, U.P. (India)

## ARTICLE DETAILS

### Article History

Published Online: 10 May 2018

### Keywords

Antenatal care, IUGR, Pregnancy, Upavistaka garbhavyapada etc.

### \*Corresponding Author

Email: maaguru011[at]gmail.com

## ABSTRACT

Antenatal care is most precious to maintain good health both for mother and developing foetus during pregnancy. Proper weight gain is a symbol of healthy pregnancy that directly affects the weight of baby i.e neonatal birth weight. Excess weight gain or low weight gain both are complications of pregnancy. In low weight gain, there is a chance of fetal growth restriction give attention to major complications. The assessment of weight gain and related symptoms of IUGR are diagnosed by serial fundal height estimation, USG, biophysical profile, ponderal index etc. During pregnancy, women require extra food or supplementation for proper growth of developing foetus. Now a day, iron- calcium-folic acid supplementations are prescribed by Obstetricians. In Ayurveda, thousands years ago, this disease is described as "Upvistaka Garbhavyapad" and their management are described very well. Pregnant women should follow regimen as described in Ayurveda to prevent such curious problem.

## 1. Introduction

**Aim:** To prevent intrauterine growth restriction, the second most common cause of perinatal morbidity and mortality.

Fetal weight is determined by many factors including the capacity of the mother to supply adequate quality and quantities of substrates required for growth of the foetus. The ability of the placenta to transport these nutritional substrates to the foetus is also play an important role. The main antepartum complications of IUGR foetus is an increased incidence of oligohydramnios, antepartum fetal distress and stillbirth. Intrapartum complications are fetal hypoxia, acidosis and high rate of caesarean delivery. Neonatal complications include hypoglycemia, hyperbilirubinemia, meconium aspiration, persistent fetal circulation<sup>1</sup>.

Amniotic fluid is derived from fetal urine and from respiratory tract. In FGR, shunting of blood from the splanchnic circulation results in reduced renal blood flow, reduced glomerular filtration rate and hence less liquor. The amniotic fluid index is measured by adding the vertical depth of cord free amniotic fluid pools in each of the four uterine quadrants. A combined depth of 5 cm or more is normal. Similarly a single vertical pocket of amniotic fluid of more than 2 cm is considered as normal<sup>2</sup>.

In Ayurveda, these symptoms are described in *garbhavyapada* as "Upavistaka garbhavyapada". During pregnancy sometimes due to *Mithyaahar-vihar* (faulty food behaviour and life style), over exertion, stress & malnutrition, women suffer from various problems. These are *Yonigatastrav*, *Udarshoola* and the growth of foetus get retarded<sup>3</sup> etc.

## 2. Discussion

Normal weight gain<sup>4</sup>:

Weeks of Pregnancy	Weight gain of Mother (in Kg)	Weight gain of foetus (in Kg)
8	1.5	Not measurable
12	1.8	0.25

16	3.0	0.25
20	4.0	0.50
24	5.5	0.75
28	8.0	1.25
32	10.0	2.00
36	13.0	2.25
40	15.0	3.00

**Incidence<sup>5</sup>:** Foetal growth restriction is the second leading cause of perinatal morbidity and mortality, followed only by prematurity. The incidence of IUGR is estimated to be approximately 5% in the general obstetric population. In assessing perinatal outcome by weight, infants who weight less than 2500gms at term have a perinatal mortality rate 5-30 times greater than that of infants whose birth weight are at 50th percentile of normal weight. The mortality rate is 70- 100 times higher in infants who weigh less than 1500gms.

### Risk factor associated with IUGR6

- Malnutrition – low maternal weight, nutritional deficiency, iron deficiency
- Lungs disease – Asthma, COPD
- Vascular disease – Pre-eclampsia, PIH, gestational diabetes mellitus.
- Cardiac disease

This growth retardation disorders are termed as Upavishtak Garbhavyapad (cessation of foetal growth accordingly) in Ayurveda. Upavishtak Garbhavyapad is associated with nourishment of foetus for which it is totally depends on mother. Upavishtak can be correlated with IUGR, in which the foetal weight is below 10% of average for the gestational age. Timely diagnosis and management of IUGR is one of the major achievements in contemporary obstetrics<sup>7</sup>.

### ETIOLOGY<sup>7</sup>:

- ✓ *Ushna and Tikshna aahar (hot & pungent),*
- ✓ *Atishram (over exertion),*
- ✓ *Divaswap (day sleep), Pushpadarshan (bleeding per vaginum),*

- ✓ *Yonigataraktastrav, Yonigatastrav, Garbhoghatkarbhas.*

**PATHOPHYSIOLOGY<sup>7</sup>:** After four month of pregnancy, if bleeding per vaginum or other types of vaginal discharges occurs for long time then the foetus does not grow properly. This condition is termed as *Upavishtaka*. Vata aggravated due to this bleeding withholding *Pitta* and *Shleshma*, compresses

the *Rasavahanadi* of the foetus. Because of this obstruction to *Rasavahanadi* causing improper flow of rasa, the foetus does not develop properly and becomes *Upavishtaka*, 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 i.e improper placental supply of nutrients.

Author	Aetiology	Clinical Features	Period of Delivery	Principles of treatment
Charaka	Use of hot, pungent articles, Bleeding or other vaginal discharges during Sanjatasaragarbha (APH),	Absence of fetal growth, prolonged intra-uterine stay.	After considerable delay	Jivaniya, Brihaniyadrugs, eggs, riding, etc
Vagbhata I	Due to use of contraindicated articles in Sanjatasara-garbha, Continuous but less bleeding per vagina causing aggravation of Vata and obstruction to Rasavahanadi.	Absence of abdominal growth, quickening of fetus without decrease in its size, clinical features of other doshas.	After Years	Just like Charaka lateron induction of abortion
Vagbhata II	Bleeding in developed foetus	Just like Vagbhata I	-	Just like Charaka

### 3. Investigation<sup>8</sup>

1. Inadequate weight gain (less than 4.3 kg) up to mid pregnancy, earlier than 24 weeks is an independent predictor of low birth weight or SGA.

#### 2. USG

#### 3. Serial Fundal Height Estimation

4. **Ponderal Index:** Based on the Ponderal index two types of FGR are described:

- Symmetric FGR :** These infants have a normal Ponderal index in which weight and length are growth restricted and infants have a small head circumference. Early onset growth restriction is presumed.
- Asymmetric FGR :** These babies have a low Ponderal index in which weight is restricted more than length. Here there is late onset growth restriction.

**5. Biophysical Profile:** The BPP is a combination of the observation of the fetal behaviour with ultrasound (fetal breathing movements, fetal movements, fetal tone and amniotic fluid volume) and FHR monitoring and is a sensitive test to determine exhaustion of fetal reserve.

### 4. Management<sup>7</sup>

- Bed rest in hospital or at home
- Maternal Dietary Supplementation:

Maternal dietary supplementation through balanced caloric intake rather than specific protein supplementation has a variable effect on fetal growth. The effect is small, though fetal weights have been shown to increase by 100–300 g.

- use of Shali rice,
- *Dugdha* (milk) and *Aamgarbha* (egg) should be given for *Vridhhi* and *Poshan* of *Garbha*.
- Rice gruel cooked with *ghrita* extracted from goat's milk, drug of *Jivaniya* group and goat's milk.

- *Saptadhatuvaradhak ahara:* Improvement in *Ahara-vihara* of *Garbhini* would improve *Ahara-rasa Utpatti* and nutrition of *Garbha*.

#### 3. Drug indication:

(A) *Jeevaniya, Madhura, and Vataharadravyas* are used with *Ghrita*,

(B) *Vacha ghrita, Maha paishachika ghrita.*

(C) *Shatavari, Ashwagandha, Gambhari, Yastimadhu, Guduchi* etc.

*Formulation of Shatavari – powder (3-6 gm), Granules, Kshirpak.*

*Formulation of Ashwagandha – powder (3-6gm), Kshirpak.*

*Formulation of Guduchi – powder, ghanvati, Satva* etc.

*Formulation of Gambhari – Decoction of root*

4. *Anuvasan Basti* by medicated *ghrita* with drug of *Darvyadi* group.

### 5. Probable action of Drugs

**Ashwagandha<sup>9</sup> (Withania somnifera):**- It possess the Gunas as Vatakaphaghna, Brihaniya, Rasayan, Deepaniya, Vrishya and Garbhasthapana. Hence it has a good nutritive value, helpful to increase muscle tone of uterus also acts on microcirculation. Antioxidant property neutralizes free radicals there by limiting the oxidative damage, antispasmodic and relaxant effect improves placental circulation which is one of the main reasons for IUGR.

**Yashtimadhu<sup>9</sup> (Glycorrhiza glabra):**- It posses antioxidant properties and also act as a *Rasayan*, *Balya*, *Garbhaposhak*, *Jeevaniya*. It also helps in improving debility.

**Laghumalinivasanta Rasa<sup>10</sup>:**- It is one of the *Vasantkalpa* which is *Madhur, Balya, Garbhaposhak* and *Garbhavidhikar*. The drug *Laghumalinivasant* contains *Shudha Kharpar, Marich* with butter. *Kharpar*, which acts on mainly *Rasavahini, Rasadhatvagni, Rasutpadan Vikriti*. It also works on

*Agnimandya*, hence it is very effective in treatment of *Upavishtak* which is caused by severe *Dhatukshay*.

**Gambhari<sup>9</sup>**:- It is *Tridoshashamak*, *Balya*, *Bruhaniya*, *Rasayan*, *Deepaniya* and *Pachaniya* drug helps in IUGR caused by *Dhatvagnimandya*. Its *Tikta* rasa helps to remove obstruction and thus the fetus can get it maximum *Poshan* and complication of LBW can be prevented.

**Shatavari<sup>9</sup>**: It is *Rasayan*, *Balya*, *Pushti*, *Snigdha* *Gunatmak*. It possesses antioxidant properties. It also works on *Agnimandya*, hence it is very effective in treatment of *Upavishtaka* which is caused by severe *Dhatukshaya*. Steroidal *saponins* present in *Shatavari* help in cellular hypertrophy (growth).

## 6. Conclusion

*Upavishtaka* (IUGR) is a common disorder in obstetrics and carries increasing risk of perinatal mortality and morbidity. Identification of IUGR is crucial. Timely diagnosis and management of IUGR is one of the measure achievements in contemporary obstetrics. If the growth restricted foetus is identified and appropriate management instituted, perinatal mortality can be reduced. Proper evaluation and management can result in favourable outcome. Ayurveda offers excellent remedies which are safe, naturally available and rejuvenating; hence Ayurvedic management should be encouraged, so that the alternative safe mode is available.

## References

1. Gogate S (2001), Int. J. Dia. Dev. C, Fetal medicine clinic, vol.21, P.N. 51-55.
2. Krishna U et.al (2011), J Obstet Gynecol India, Placental Insufficiency and Fetal Growth Restriction, Oct; 61(5): 505–511
3. Tewari PV (1999), Ayurvediya Prasuti Tantra & Striroga, Garbhavyapad- Upavishtaka, Chaukhambha Oriantallia Varanasi, reprint 2003, P.No. 361
4. [suntmamica.ro/sarcina/tine-sub-control-cresterea-in-greutate-3070](http://suntmamica.ro/sarcina/tine-sub-control-cresterea-in-greutate-3070).
5. Krishna U et.al (2011), J Obstet Gynecol India, Placental Insufficiency and Fetal Growth Restriction, Oct; 61(5): 505–511
6. Ingle PV et. al (2012), IJPP, Socioculture healthy nutrition eating..., Vol.3, issue.5, July-Sep.2012,
7. Tewari PV (1999), Ayurvediya Prasuti Tantra & Striroga, Garbhavyapad- Upavishtaka, Chaukhambha Oriantallia Varanasi, reprint 2003, P.No. 361
8. Dutta DC (2006), Text book of Obstetrics, Low birth weight baby, New Central Book Agency Culcutta, 6th ed., P.N.464-465
9. Sharma PV(2006), Dravyaguna vigyan, Vrishyadi varga-Rasayana-, Chaukhambha Vishwabharti Varanasi, reprint, P.N. 225, 253, 562, 673.
10. Jha CB (2006), Ayurvediya Rasashastra, Maharasauprasa- Kharpar, Chaukhambha Sanskrita Pratishthan Delhi, reprint, P.N.2238-241.