



Case Study

AYURVEDIC MANAGEMENT FOR INTRAUTERINE GROWTH RESTRICTION - A CASE REPORT

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ABSTRACT

Intrauterine Growth Restriction is a major problem affecting pregnant women and results in significant perinatal mortality and morbidity. In the present case a 19-year-old Primi gravida who was under regular ante natal check-up was detected with Intrauterine Growth Restriction at 29 weeks of gestation. The abdominal circumference of the foetus was found to be less than 2.3 percentile and there was oligohydramnios on further evaluation. She was given allopathic management initially, but the condition was deteriorating. She was referred for Ayurveda management and was treated with Ayurvedic medicines considering it as a case of *Garbhasosha* (foetal emaciation). She was administered *Vidaryadi Ghrita* internally along with dietary advises. She delivered a healthy female baby of weight 2.97kg at term through Lower Segment Caesarean Section. The scope of modern medicine in improving the baby weight is limited in Intrauterine Growth Restriction. In the present case adequate weight gain of the foetus was achieved in a short span of time thereby preventing the need for early delivery and the pregnancy was continued till 39 weeks of gestation. Being a term delivery the need for neonatal intensive care also did not arise. The current approach indicates that Ayurveda is highly effective in intra uterine growth restriction. This case opens the scope for further research in the area of Intrauterine Growth Restriction with Ayurvedic medicines.

KEYWORDS: *Garbhasosha*, IUGR, Intrauterine Growth Restriction. Low amniotic fluid index, *Vidaryadi Ghrita*.

INTRODUCTION

Intrauterine Growth Restriction (IUGR) has been defined as the rate of fetal growth that is below normal in light of the growth potential of a specific infant as per the race and gender of the fetus.^[1] The causes of IUGR can be maternal, fetal, placental and unknown causes.^[2] In most causes of IUGR blood flow to the fetus is compromised either through vasoconstriction or loss of blood^[3]. There is no cure for the condition, and management is based on structured ante partum fetal surveillance program with proper timing of the delivery^[4].

In Ayurveda IUGR is considered as *Garbhasosha* per Acharya Susruta^[5]. Even though drugs for *Garbhasosha* are mentioned in Ayurveda, since it is not readily available, *Vidaryadi Ghrita* was selected for internal administration. The following are the ingredients of *Vidaryadigana* which was administered: *Vidari* (*Ipomea paniculata*), *Panchangula* (*Ricinus communis*), *Vrischikali* (*Helitropium indicum*), *Punarnava* (*Boerhaavia diffusa*), *Devahvaya* (*Cedrus deodara*), *Mudgaparni* (*Vigna pilosa*), *Mashaparni* (*Vigna radiata*), *Kandukari*

(*Mucuna puriens*), *Abhiru* (*Asparagus racemosus*), *Vira* (*Coccinia grandis*), *Jivanti* (*holostemma adakodien*), *Jivaka* (*Microstylis wallichii*), *Risabhaka* (*Microstylis muscifera*), *Brihati* (*Solanaumanguivi*), *Kandakari* (*Solanum xanthocarpum*), *Goksura* (*Tribulus terrestris*), *Prishniparni* (*Desmodium gangeticum*), *Salaparni* (*Pseudarthria viscida*), *Gopasuta* (*Hemidesmus indicus*), *Tripadi* (*Desmodium triflorum*), *Ksheera* (Cow milk), *Ghritha* (Ghee)^[6]. *Vidaryadi Gana* (group of drugs) is indicated as *Hridya* (Cardiac tonic), *Brimhana* (nourishing), *Vata Pitta hara* (pacifies *Vata* and *Pitta dosha*), and cures *Sosha* (emaciation), and is *Swasa Kasa hara* (pacifies cough and wheezing)^[6]. In *Garbhasosha*, *Vata* is the predominant *Dosha* involved and *Brimhana* (nourishing therapy) is the line of treatment adopted for pacification of *Vata*^[7]. In IGUR if the delivery is preterm there can be delayed fetal lung maturity and hence steroids are administered to mother before planning delivery. Since *Vidaryadigana* has action on respiratory system the combination may help in the lung maturity of the fetus as well through

uteroplacental circulation. In this study *Vidaryadi Gritha* was given along with dietary advises for duration of 16 days before delivery which was found to be effective as the baby was delivered at term with normal birth weight.

Case Report

A 19 year old primigravida who was under regular antenatal checkup at Govt. Ayurveda College Hospital for Women and Children, Poojapura, Thiruvananthapuram, Kerala was detected to have reduced fundal height of growth corresponding to 26 weeks when she came for antenatal checkup at 29 weeks. On further investigations she was detected with reduced liquor volume of 8cm and reduced abdominal circumference of the fetus. She was

Personal history

| | |
|-------------|---------------------|
| Appetite | Good |
| Diet | Non vegetarian |
| Bowel | Hard stools |
| Micturition | Increased frequency |
| Sleep | Disturbed |
| Allergy | Not known |
| Addiction | No addictions |
| Occupation | Student |

managed with allopathy initially and was advised to take high protein diet. But her condition deteriorated and her AFI reduced to 5-6 cm after 4 weeks. She was referred for Ayurvedic treatment since she was not responding to allopathic medicines. After starting *Vidaryadi Ghritha* along with diet modifications her Amniotic Fluid index improved and the pregnancy continued till term. She underwent lower segment caesarean section due to failed induction at 39 weeks, delivered a healthy female baby of birth weight 2.97kg with APGAR Score of 9 at 1 minute. She had mild elevation in BP three days prior to her delivery and was started on allopathic anti-hypertensive which was stopped immediately after delivery.

Menstrual history

| | |
|-----------------------|-----------------------------------|
| Menarche | 13 years |
| Interval | 28-30 days |
| Duration | 4-5 days |
| Amount of bleeding | 2-3 pads per day, 1 pad per night |
| Clots | Occasional |
| Associated complaints | mild dysmenorrhoea |

| | |
|-------------------|--|
| Obstetric history | G ₁ P ₀ A ₀ L ₀ Last menstrual period (LMP)- 16 -08-2019 EDD- 23.05.2020 |
| Marital history | Married since 25-04- 2019, No dyspareunia, No contraceptives used |

Obstetric Examination

| Date | POG | Weight | B.P in mmHg | Fundal Height | Presentation | Fetal Heart Rate | Fetal Movements |
|------------|----------|--------|-------------|---------------|----------------|------------------|-----------------|
| 16.03.2020 | 29 weeks | 84kg | 130/70 | 26 weeks | | + | + |
| 13.04.2020 | 34 weeks | 87kg | 120/80 | 28 weeks | Oblique breech | + | + |
| 27.04.2020 | 36 weeks | 86kg | 110/80 | 32 weeks | | + | + |
| 01.05.2020 | 36 weeks | 86kg | 124/90 | 32 weeks | Breech | + | + |

Ultrasound scan findings

| Date | Findings | Estimated fetal weight |
|------------|--|------------------------|
| 11.11.2019 | SLIU Foetus of 11 weeks 3 days, NT-1.2mm NB –seen | |
| 11.01.2020 | SLIU pregnancy of 20 weeks 2 days. Foetal structures grossly appear normal. | 330+/- 48 gms |
| 18.03.2020 | SLIU gestation of 30 weeks 2 days. AFI-8, Less liquor. Abdominal circumference is 247mm corresponding to 29 weeks 0 days | 1498+/- 224 gms |
| 11.04.2020 | SLIU foetus in oblique lie with breech in left lower quadrant corresponding to 33 weeks 0 days Abdominal circumference less than 2.3 percentile | 1940+/- 283 gms |
| 27.04.2020 | SLIU pregnancy corresponding to 35 weeks 5 days of gestation. Oligohydramnios. (AFI- 5-6 cm). Doppler study is within normal limits. | 2698+/- 394 gms |
| 11.05.2020 | SLIU gestation corresponding to 37 weeks 4 days. AFI-9 | 3168+/- 478 gms |
| 14.05.2020 | SLIU foetus corresponding to 37 weeks 6 days in Cephalic presentation. Liquor is borderline less. Colour Doppler study is within normal limits. | 3215+/-469gms |

AYURVEDIC MANAGEMENT

| Date | Medicine | Dose | Anupana | Duration |
|------------|------------------|------------|---------|----------|
| 01.05.2020 | Vidaryadi Ghrita | 10g -0-10g | Sugar | 16 days |

Diet advised

Egg white - soft boiled -3 per day

Tender coconut water with cardamom -2 per day

DISCUSSION

IUGR was correlated with *Garbhasosha* mentioned in *Susrutha samhita* where *Vata* vitiation is considered as the *Nidana* (aetiology). The treatment line for *Vata* vitiation is *Brimhana* (nourishing therapy). *Vidaryadighrita* was selected since most of the drugs are having the properties of *Madura rasa* and *Madura Vipaka* which pacifies *Vata*^[8]. *Garbhini Karshya* (emaciation in pregnant lady) is mentioned in the sixth month of pregnancy and in seventh month loss of strength and complexion is mentioned^[9]. The changes seen in mother reflect the fetal growth and developmental aspects. In the management of the above conditions in fifth month *Ksheerasarpis* (Ghee prepared from butter extracted from milk) is mentioned and in seventh month *Madhuroushadha sidha ksheeraghrita* (ghee processed with drugs of sweet taste) is mentioned^[10]. The placenta transfer nutrients and waste products between the mother and the fetus^[11]. If a drug is lipophilic it can cross through the phospholipid bilayer of placenta by passive diffusion^[12]. So it is proposed that lipid based substances cross the placental barrier to reach the fetoplacental circulation there by correcting the growth restriction. Sugar was advised as adjuvant since there is reference of *Sita Madhuka Kasmariyadi Yoga* in *Garbhasosha*^[13]. The other drugs are not

easily available and so the readily available formulation of *Vidaryadi Ghrita* was selected. Egg white was advised since it is rich in amino acids like alanine, arginine, glutamine, lysine, histidine, proline, serine, valine, tryptophan etc which are present in amniotic fluid too. Based on the treatment principle of “*Vridhisamanaisarvesham*” (Use of substances with similar qualities bring about the increase of body humors with similar properties)^[14], we advised the patient to take egg white and tender coconut water with cardamom powder. Tender coconut water is the liquid endosperm present in the cavity of the coconut fruit and contains amino acids, Vitamin B Complex, Vitamin C, 95.5% water, 4% sugars, 0.1% fat, 0.02% calcium, 0.01% phosphorous, 0.5% iron etc.^[15]. *Ela* (Cardamom) is indicated in *Kshaya* (weakness), it is also *Hridya* (cardio tonic) and *Deepana* (increases digestive fire)^[16]. Tender coconut water was advised since it is highly nutritious and cardamom was added to it as *Anupana* (adjuvant) as it helps in better digestion and absorption.

CONCLUSION

- Ayurveda treatment with *Vidaryadi Ghrita* was found to be effective in correcting Intrauterine Growth Restriction and Oligohydramnios in a short span of time.

- This case can be used for further studies based on the drugs mentioned for *Garhini Paricharya* (Antenatal Care) and in other contexts considering the *Dosa* (body humor) as lipophilic substances can pass through placenta to reach the foetus and there by correcting the growth restriction.
- Further studies on the effects of *Vidaryadi Ghritha* inutero can be conducted in animal models to understand the molecular basis of action.
- Ayurveda medicines provide a promising future in research related to IUGR

ACKNOWLEDGEMENT

We would like to express our gratitude towards, Dr.M.Jayasree, MD, DGO (Sr consultant, OBG), Dr.Geetha Venugopal, DGO (Jr.Consultant, OBG), Dr.Suni.C.S (Jr Medical Consultant, Paediatrics), Govt Ayurveda College Hospital for Women and Children, Poojapura, Thiruvanthapuram, Kerala for their support.

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Cite this article as:

Ammu.K.Sasi, Aswini Mohan L, Shahina Mole.S. Ayurvedic Management for Intrauterine Growth Restriction - A Case Report. International Journal of Ayurveda and Pharma Research. 2020;8(5):9-12.

Source of support: Nil, Conflict of interest: None Declared

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