



Review Article

**AYURVEDIC PRE-CONCEPTIONAL MANAGEMENT IN PATIENT WITH HISTORY OF
ABNORMAL KARYOTYPE IN FOETUS - A CASE REPORT**

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ABSTRACT

Every year worldwide, congenital anomalies contribute to the estimated amount of 2,95000 newborn deaths within 28 days of birth. Congenital anomalies result from many causes; one or more genetic or chromosomal defects, infections, nutritional or environmental teratogenic factors etc. May result in pregnancy loss, even if the foetus survives it will present with severe multi system organ damages, leading to lifelong disability and poor quality of life for both self and families which has got rippling impacts on the health care system and society. In Genetic defects involving karyotype errors allopathic treatment modalities are effective in some cases but only to a limited extent. In 2019 September, a 25 yr old female with history of medical termination of pregnancy (G₁) approached OPD of Dept of Prasutitantra and Streeroga at Govt. Ayurveda college Women & Children Hospital. MTP was done at 12 wks of gestation due to gross foetal anomaly. Foetus was suspected to have hydrops foetalis as per the USG scan. Later karyotyping of the aborted foetus showed sex chromosome anomaly 45X0. She wanted to conceive again but was worried about the recurrence of karyotype error. She came to know about the concept of *Sreyasi praja*. She was willing to explore possibilities of Ayurvedic treatment modalities as pre conceptional care. After detailed case taking, analysing reports from the previous pregnancy, Ayurvedic treatment modalities including *Sodhana* therapies, *Pumsavana vidhi* for *Garbha sthapanam*, diet and regimen based on the fundamental principles were decided. And Soon after the treatment period patient got conceived in the month of February 2020 and the pregnancy was closely monitored and completed term uneventfully and delivered (FTND with RMLE) a healthy female baby with 2.6kg weight with APGAR 9 at 1 minute. The baby is growing up with normal IQ, active for her age and healthy. This case presents the effectiveness of Ayurvedic preconceptional management in achieving *Sreyasi praja*.

INTRODUCTION

Congenital anomalies form a major cause of neo natal and infant deaths, chronic illness and disability. In 2010, in 63rd World Health Assembly member states made resolution on birth defects where they agreed to promote primary prevention and improve the health of children with congenital anomalies.

For achieving this goal the need to develop and strengthen registration and surveillance systems by the health care services, extensive research oriented studies on etiology, diagnosis and prevention, developing expertise and manpower in this field through international cooperation.

The congenital defect may result from several reasons significant among them are single gene mutations, chromosomal disorders, multifactorial inheritance, environmental teratogens, micronutrient deficiencies, infectious diseases of mother like syphilis, rubella etc. Gestational diabetes mellitus, iodine and folic acid deficiency, irresponsible usage of painkillers and recreational drugs, alcohol and tobacco, certain environmental chemicals and pesticides, and high doses of known and unknown radiation are other

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causative factors of birth defects [2]. The effect of a congenital anomaly can be noted in the foetus as mild, severe, or incompatible with life. For chromosomal (karyotype) errors mostly anomalies present with defects in major organ systems. Thus the survival chances of the pregnancy as well as its survival after birth are difficult. Successful treatment modalities to correct such defects are yet to come. Our classics give scattered references which can be correlated with genetic and chromosomal defects. Ayurveda mentions about various *Nidanas* like faulty *Rajaswalacharya* [3] with *Mithya aahara-vihaaraas*[4], *Virudha aahara, Sevana*[5], *Douhruda avamaanaa* [6] (withholding urges felt in pregnancy), marriage within the same *Gothra* [7], *Daivatha*[8] (due to God /sins done in the past life or mis deeds by parents in the present life). All *Acharyas* have the same opinion that due to the above mentioned *Nidanas* vitiated *Doshas, Koshtagni, Dhathus, Dhathuvagnis bhoothagnis* ultimately result in *Garbha* with *Jananga vikrithi* [9] which may not survive in utero or suffer with diseases even after birth. *Ayurveda* aims at successfully bringing *Sreyassi praja* [10]. All cultures worldwide gives importance to be getting a viable healthy progeny which serves the purpose of continuation of family lineage which in turn will benefit their respective *Gothra* (clan) as well as their country. While planning for the conception as the first step, Ayurveda presents with the *Garbhaadhaana poorva vidhi* [11] (preconceptional care) for couples who wishes to beget a *Sreyassi praja*. All treatment procedures follow the basic fundamental principles of *Ayurveda*; first and foremost avoiding the various *Nidanas* implicated, using our *Aahara vihaara charyas* (Diet and regimen) as well as *Sodhana kriyas* (purification process), remove *Srothorodha* (blockage in channels), clears vitiated *Doshas* and *Dhathus* and improves *Koshtagni* and *Dhathu agni* and finally

internal medication with *Rasayana* properties was given.

Case Report

A 25 yr old lady approached Dept of Prasutitantra-Streeroga OPD at Govt Ayurveda College Hospital for Women & Children Poojapura Tvpm with H/O one MTP at 12 wks of gestation due to foetal anomaly. It was a case of suspected hydrops foetalis [12] detected through ultra sound scan. The karyotyping of aborted foetus was done and found out that the karyotype was 45XO [13], (Turner's) a sex chromosomal anomaly. The patient wished to conceive again but was afraid of recurrence of the previous anomaly. The patient wished to explore the Ayurvedic pre conceptive care management in order to achieve a *Sreyassi praja*. First of all the karyotyping of couple was done and both were found to be normal. The detailed analysis was done with the reports from previous pregnancy. Assessment of the current personal history and other important vitals, *Koshtagni* status were done. Ayurvedic preconceptional management was done which included both external and internal medications and therapeutic processes beginning *Poorva karms udwarthana, Snehana, Swedana, Sodhanadi kriyas* and *Sukumara lehyam* as *Rasayana* as follow up medication. Treatment got completed in October 2019 and she got conceived in February 2020. LMP was on 4/2/2020. In the first trimester USG no anomalies or complications were found. Whole pregnancy period was monitored closely. Ayurvedic *Garbha sthaapana vidhi* as well as ante natal care was followed. She was also provided with the routine ante natal care along the WHO guidelines like folic acid, Calcium and iron supplements and two doses of Inj. Tetanus toxoid. She delivered (a FTND with RMLE) female baby of 2.6kg birth weight APGAR 9 at 1 minute.

Personal History

Appetite	Good
Bowel	Constipated
Micturition	NAD
Sleep	Disturbed
Diet	Non Vegetarian
Occupation	Professional
Allergy	Nil
Addiction	Nil
Stress	Due to the loss of pregnancy and about the occurrence of karyotype error

Menstrual History at the time of commencement of treatment

Menarche	11 yrs
Interval	Presently regular 27-28 days
Duration	3-4 days
Amount of bleeding	Uses regular sized pads 3-4 /day on 1 st 2 days.
Clots	occasionally

Associated symptoms	Tiredness during menstrual period
Other relevant history	Before marriage, had h/o PCOD, irregular periods, took Ayurvedic treatment, and her cycles became regular.
Dysmenorrhoea	Since menarche was present till the MTP after which it disappeared
Marital History	In Dec 2016 got Married at the age of 22 yrs to an NCM of 30 yrs
Obstetric History	G1 A1; Conceived naturally, at 12 weeks of gestation MTP was done because of foetal anomaly detected in USG.

USG (NT Scan) Findings from previous pregnancy

LMP	19/3/2019
GA	According to menstruation 12 wks, 6 days.
EDD	As per LMP 24/12/2019
FHR	164/minute
Nuchal translucency	4mm
Nasal bone	Appears hypoplastic and measures 1.4 mm
Opinion	SLIUF of average 12 wks 1 day, Foetal cranial vault partially ossified. Diffuse oedema of scalp, chest and abdomen. Cystic area noted on the posterolateral aspect of the nape of the neck? cystic hygroma. Suspicious minimal fluid noted in bilateral pleural cavity? Minimal pleural effusion, possibility of hydrops foetalis

Karyotype findings

Karyotype findings of aborted foetus	Abnormal with 45XO
Karyotype findings of both parents	Both found to be normal

Ayurvedic Preconceptional Management done as follows**Procedures done**

1	<i>Udwarthanam</i> ^[14] (From 24/9/19-28/9/19)	<i>Kolakulathadi choornam</i> for 5 days
2	<i>Virechanam</i> ^[15] on 1/10/19	<i>Gandharverandam</i> ^[16] 25ml with warm water at 6 am; 5 Vegas 3 <i>Pravara</i> 2 <i>Madhyama vegas</i>
3	<i>Snehapanam</i> (2/10/19 to 9/10/19)	<i>Phalasarpi</i> ^[17] Total 7 days (1 st 4 days as <i>Achapaana</i> and then 3 days as <i>Vicharana</i> 50 ml bd.
4	<i>Abhyangam</i> ^[18] (10/9/19-12/9/19)	3 days with <i>Karpooradi tailam</i>
5	<i>Yoga vasthi</i> ^[19] (13/9/2019-20/9/19)	<i>Anuvasana Vasthi</i> ^[20] - <i>Dhanwantaram tailam</i> <i>mezghupaakam</i> -100ml <i>Kashaya vasthi</i> ^[21] <i>Saindhavam</i> Honey- <i>Kalkam</i> - <i>Satapushpa kalkkam</i> ^[22] <i>Kashayam</i> - <i>Sukumaram Kashayam</i> ^[23,24] <i>Tailam</i> - <i>Dhanwantaram Mezghukupakam</i> ^[25]
6	<i>Uthara vasthi</i> ^[26] (21/9/19-25/9/19)	For 5 days with <i>Phalasarpi</i>

Internal medications

1.	(During treatment procedures) <i>Sapthasaram kashayam</i> ^[27]	90 ml -0- 90ml bd before food with <i>Gulam</i> and <i>Saindhavam</i> during the commencement and while on treatment
2.	(During follow up) <i>Sukumaram Kashayam</i>	90 ml twice a day 1 hr before food for 1month
3.	<i>Sukumaram lehyam</i>	15gm at bed time.

After treatment evaluation

On February 2020 she got conceived again. LMP 4/2/2020.

USG Scan (NT scan) at 12 wks after treatment

LMP	4/2/2020
GA	According to menstruation 12 wks 1 day.
EDD	Based on LMP 10/11/2020
FHR	159/m
Nuchal translucency	1.2mm
Nasal bone	Visualized
Opinion	SLIUF with average gestational age 12 wks. NT within normal limits. Nasal bone visualized

The ante natal period was closely monitored and antenatal care was given as follows.

Garbha sthapana vidhi

1	<i>Dhanwantaram gulika</i> [28]	2 no.s early morning before food
2	<i>Satavari ksheera kashayam</i> [29]	60 ml evening before food

Garbha kaala paricharya

1	<i>Dhanwantaram gulika</i>	2no.s early morning before food (from beginning of pregnancy onwards.)
2	<i>Phala sarpis</i>	10 ml before food in the morning from 5 th month.
3	<i>Bala ksheera kashaya</i> [30]	60 ml from 6 th to 9 th month

Antenatal period was uneventful. Delivery was spontaneous. On 4th November 2020 she had a normal vaginal delivery with RMLE on A female baby 2.6kg birth weight with APGAR 9 at 1 minute. She is growing healthy and active for her age.

Diet: Congenial diet and regimen was advised to be strictly followed.

DISCUSSION

Chromosomal anomaly present in the aborted foetus from previous pregnancy was 45XO. This type of anomaly can be correlated with *Vaartha a Beeja avayava* defect (a congenital chromosomal anomaly) as explained by Acharya Charaka explains in *Sareerasthana* 4th chapter 5th verse "*Streekaranaanam cha sareerabeeja bhaaganam ekadesha pradosham aapadyathe thadaa sthrayaakrithi bhooyishta asthriyam vaartha naama janayathi, Thaam stri vyaaoad aachakshathe*".

Evaluation of both male and female partner's was done, apparently all the parameters were found to be normal in male except for stress due to concern about any reoccurrence. In female she had a history of PCOD, dysmenorrhoea, irregular menstrual cycles with lengthy intervals were present. Counseling was given to both to reduce the stress as "*Soumanasyam Garbhadharanaanam agryam*" [31]. Strict diet and regimen were advised and also to avoid the aforesaid *Nidaanas*. The female partner was given *Sodhana* therapies (purification) as part of pre conceptual care. *Sodhana karma* [32] is mandatory before *Sthaneeya* [33] (local) and *Samana* (pacification) *Chikithsa*. The management was chosen taking into

consideration of the status of *Dosha, Dooshya* and *Agni*. As internal medication initially *Saptha saaram kashaya* was selected due to her previous H/O *Arthava dushti* (PCOD, dysmenorrhoea and irregular menstruation); as it has *Srothosodhaka* and *Pakwasaya vaatha anulomana* property. In the follow up period *Sukumaram kashayam* was given as it is effective in curing the *Sopham, Pakwashayagatha vatha dushti*, and *Yoni rogas*. As internal procedures *Sodhana karma* was done. As *Poorva karma* with *Udwarthanam* (medicated powder massage), which helps to improve *Koshtagni*, helps removing the stunted, slow nature of *Dhathu parinama* [34,35] which helps in improving the quality of *Beeja roopathmaka arthava Virechana* helps to improve *Dhathu sudhi, Beeja kaarmukatha* [36]. It was done with *Gandharva eranda* as *Erandamoola* is *Vrishya vatha haram*. As the patient has the history of MTP in 1st pregnancy due to abnormal karyotype, *Phala sarpis* [37] was selected for *Snehapaana* as it is beneficial in "*Mriyamaana prajaanaam cha garbhininaam cha poojitham*". *Phala sarpis* is also beneficial in curing *Yoni-sukla pradosham* (helps cure vitiations in both female and male reproductive functions), it is *Medhyam* (improving higher mental functions), *Garbha sthapana* (stabilizing of pregnancy) etc. Following *Snehapaana Abhyanga ooshma sweda* (external oleation and sudation) was done as it promotes the movement of the vitiated *Doshas* from *Saakhas* to *Koshta* resulting in easy elimination from the body. *Yoga vasthi* was done. *Anuvasana* [38] (*Vasthi* with *Sneha* alone) was done with *Dhanwantaram mezhupaakam* [39] as it is *Sarva vaatha vikarajith, Balya* properties and effective in *Yoni rogas*.

Satapushpa^[40] *Kalkam* was used in *Kashaya vasthy* as it is *Rithu pravarthini* (emmenagogue), *Yoni sukra visodhani* (purifies both sperm and ovum), *Putra prada* (bestows with progeny), *Veerya kari* (improves the vitality). As *Sthaaneeya chikithsa Uthara vasthi* with *Phalasarpis* was done for 5 days. *Uthara vasthi* helps in alleviating *Vatha* and keeps the purity of *Garbhasaya*. The vaginal mucosa helps in rapid absorption of the medication and direct access of medication to site (*Yoni, Garbhasaya, Gaveeni*). During follow up period *Sukumaram kashayayam* and *Lehyam* was given due to its *Rasayana* (rejuvenating) nature was given.

After the conception *Sathavari*^[41] *Ksheera kashya* (milk decoction) was given initially for *Garbha sthapana* as it is *Madhura rasa Madhura vipaaka* and is adaptogenic in nature. *Dhanwantaram* tablet was given all along the ante natal period to pacify the *Vatha*. From fifth month *Phalasarpis* was given and from 6th month onwards *Bala ksheera kwatha* was given till 9th month. *Bala* being pacifier of *Vatha* and *Ksheera kashaya* provides the best form of nutrition to the neural development in foetus as it is *Jeevaniya* and *Balyam* and *Rasayana*.

Whole antenatal period went un eventful and she delivered spontaneously (FTNVD with RMLE) a healthy viable female baby of 2.6kg.

CONCLUSION

- Preconceptional management through Ayurveda has time and again given successful conceptions and successful labour outcomes with both healthy mother and baby.
- Ayurvedic treatment modalities are economically more feasible and cost effective and usually doesn't result in any undesirable effect.
- Further studies on the impact of diet and regimen of prospective parents has to done.
- The possibilities and effect of Ayurvedic pre conceptional care in epigenetics needs to be further explored.

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