

Case Report



Ayurvedic management of Amniotic Band Syndrome (Jarayu Dosh): A case report

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ABSTRACT:

Background: Several fibrous bands that entangle or seem to entrap various body components during pregnancy are associated with amniotic band syndrome (ABS), a collection of fetal abnormalities that causes deformity, disruption; Reconstructive surgery is the recommended course of treatment, as determined by ultrasonography. Amniotic band syndrome as *garbhasya achadhana*, falling under *Jarayu dosha*. Patient was treated successful with *Balamoola Ksheerapaka*, *Dhatri loha*, *Jivanti* by which it was reverted. *Acharya Vagbhata* mentions *Rasa dusti* and *Kapha dosha* was addressed to revert the condition. Classics have mentioned any defects to *Jarayu* leads to *Jarayu dosha*. **Clinical Findings:** A 26-year-old woman who had fetal abnormality scan at 18 weeks of gestation and diagnosed with Amniotic band syndrome. Ayurveda emphasis these clinical characteristics are associated with *Jarayu dosha*, where the *kaphahara* line of therapy and *Rasa dusti* is treated. *Rasadusti* and *Kapha* rectification are two *Jarayu dosha* treatment tenets. **Outcome:** After three months of ayurvedic treatment, the amniotic band that was discovered in the fifth month and seen on the ultrasonography was treated by 27th week. Delivered healthy girl child by Caesarean procedure at 38 weeks gestation, and postnatal period proceeded normally. **Conclusion:** Amniotic band syndrome through Ayurveda management focusing on *Rasadudushti* and *Kapha dosha* which has shown encouraging results by using *shamanoushadhis* and depicted in ultrasonography findings after regular follow up and intervention achieving full term baby.

KEYWORDS: Amniotic band syndrome, *Jarayu dosha*, *Rasadusti*, *Garbhasya achadhana*, *Kaphahara*, Case Report.

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1. INTRODUCTION

Amniotic band syndrome (ABS) comprises various congenital anomalies, which include disruption, deformation, and malformations of organs that were intended to develop normally. The aetiology of ABS is controversial, and several synonyms including ADAM (Amniotic Deformity, Adhesions, and Mutilations) complex, amnion rupture sequence, amniotic band sequence, amniotic band disruption complex, congenital ring constriction, constriction ring syndrome, transverse limb defects, annular constriction bands, aberrant tissue bands, Streeter's dysplasia or syndrome, and early amnion rupture spectrum. [1] Amniotic band syndrome (ABS) affects 1 in 1000 to 1 in 15000 live births and 1 in 70 stillbirths having same sex ratio. Constriction rings, limb defects, spine/neural defects, and craniofacial anomalies that may be deadly and lead to abortion are the four primary categories of anatomical malformations. Ultrasonic testing is mostly used for prenatal diagnosis, while reconstructive surgery is primarily used for treatment, survival, and life expectancy. According to *Ayurveda* it can be related to *Jarayu dosha*. *Rasa* is most important *dhatu* responsible for *garbha dharana* which helps in formation of three factors *jarayu sesa*, *stanya vardana* and *swa-deha vardana*. [2] *Jarayu* is explained as the layer that covers around the baby and any defect to the layer is termed as *jarayu dosha*. [3] This explanation can be co-related to all the abnormalities of amnion. Due to unknown pathology as to how Amniotic band syndrome is formed, there is proposed theory in its pathogenic mechanism: early amnion rupture leading to fibrous

bands, which entrap the fetal body; the endogenous theory privileges vascular compromise. As Amnion is known to cover the foetus as amniotic layer and in similar way *Jarayu* is known to cover the foetus any defect, disruption and dysregulation leads to abnormalities. As *rasa* is responsible for the formation of *jarayu* any defect can be understood under broad spectrum of *rasa dusti*, Here *Rasa dusti* and *kapha hara* line of management was adopted. *Balamoola ksheerapaka*, *Dhatri Loha* and *laghu malini vasant rasa* are the drugs used, those which are having *rasa vridhikara* properties, thus increasing the amniotic fluid and excreting of vitiated doshas by continuation exchange of Amniotic fluid between fetus and placenta.

Patient Information: 26 years old female presented with complaints of nausea and abdominal distension along with complaints of amenorrhea since 9 weeks + 6 days along with nausea and abdominal distension since 1 week, she had done her UPT at home and it was found to be positive.

2. CLINICAL FINDINGS:

Multi gravida patient with not known case of diabetes mellitus, hypertension and thyroid dysfunction presented to KLE Ayurveda Hospital, *Prasuti* OPD Shahpur, Belagavi. On examination, all vitals were found to be normal. She was on LMP-2/3/22 and EDD-7/12/22, and her previous menstrual cycle was regular with no dysmenorrhea, clots, or white discharge. She had a previous history of one stillbirth. Physical Examination: P/A= on Inspection -No scar mark, Uterus corresponding to 18 weeks, FHS regular 148bpm, fetal movements well appreciated. External ballottement was

present Foetus is 18 weeks 4 days, Abdominal girth 27 cms, Foetal parts are palpable. Weight - 75kgs, B.P. – 110/60mmHg. Investigations: Beta Human Chorionic Gonadotropin Hormone -23440 Miu/ml, MoM for Beta HCG – 1-18, Estriol Unconjugated-1.06 ng/ml, MoM for Estriol – 0.89, Down syndrome -1.2218, Trisomy 18 Risk estimate – 1:10000, Neural tube defects – 0.63, Alpha fetoprotein- serum – 31.7 ng/mL, Inhibin A – 227.6 pg/mL, MoM for Inhibin -A -1.07, Hb%-10.3; Blood Group: A+.

Diagnostic assessment and Intervention: Based on the foetal scan: Patient had single intrauterine pregnancy corresponding to 5weeks 1 day and the investigations

performed, on foetal anomaly scan on 21st week [Table 3] [Figure 1] showed Amniotic band presentation measuring upto 1.9mm the case was diagnosed as Amniotic band syndrome [Figure 1] as per modern science and *Jarayu dosha with rasa and Kapha dusti* as per Ayurveda.

Considering the ultrasonography findings as Amniotic band syndrome and *Jarayu dosha with rasa and Kapha dusthi*, treatment was planned accordingly. *Kapha hara* line of management and maintenance of pregnancy up to 36 weeks was the focus of the treatment [Table 1 & 2].

Table no 1: Timeline of the study

Assessment of the patient throughout pregnancy with Ayurveda intervention					
Date	Blood pressure(mm/hg) and Pulse(bpm)	Weight(kg)	Period of gestation (weeks) complaints	Examination	Intervention
11-5-22 - 31-05-22	120/70 74	73	At 9weeks 6days Nausea and abdominal distension	Uterus not palpable	Tab lepteden 1BID A/F <i>Garbhapala rasa</i> 1tab TID <i>Shatavari Rasayana</i> 1tea spoon BID A/F <i>Dhanvantari vati</i> 1TID A/F Duration – 1 month
1-6-22 – 12-7-22	100/70 76	72	13, Vomiting, headache pain in lower limbs	Uterus not palpable	NT scan Same above-mentioned drugs are continued.
13-7-22 – 2-08-22	110/60 78	75	17, C/o Tiredness	Uterus 16-18 weeks EB ++	Fetal anomaly scan Tab lepteden 2tab BID <i>Balamoola ksheerapaka</i> 50ml BID <i>Dhatri loha</i> 2tab twice daily <i>Laghu malini vasant rasa</i> 1tab TID.
3-8-22 –	110/70	81	21w1d	Uterus 22 weeks	Same drugs were continued for 1

6-9-22	76		c/o white discharge was seen on 21 week 1 day	EB++ FHS +, Breech presentation	month
7-9-22 – 6-10-22	120/60 80	84	27 c/o repeated sneezing	Uterus 26-28 weeks EB++ FHS ++ 150bpm Breech presentation	Same drugs were continued for 1 month
7-10-22 – 11-11-22	110/70 74	81	31 weeks,2 days No complaints, Routine check up	Uterus 30 -32 weeks Breech presentation EB++ FHS ++ 140bpm	Same drugs were continued for 1 month
2-11-22 – 8-11-22	110/70 74	84	35, 0 days	Uterus relaxed 34-36 weeks FHS ++	Same drugs were continued for 1 month
9-11-22- 15-11-22	110/80 70	84	36weeks ,3daysRoutine checkup	Uterus term, relaxed FHS++, Breech presentation	<i>Dhatri loha</i> 2tab BID
16-11-22- 20-11-22	110/70 72	81	37 weeks 2 days	Uterus term Fhs+, Breech presentation	Counselled And advised for Caesarian (C) -section as mode of delivery
21-11-22- 20-11-22	110/70 72	81	37 weeks 6 days	Uterus term, relaxed FHS++, Breech presentation	Elective C -section on 21/11/22 at 9 am
21-11-22 at 9 am	Female baby was delivered.				

Table 2: Oral Medications

SL. No	Name of the Medicine	Dose	Duration
1	<i>Dhatri Loha</i>	1 BD	11/05-8/11/2022
2	<i>Garbhapala rasa</i>	1 TID	11/05-8/11/2022
3	<i>Laghu malini vasant rasa</i>	1 TID	13/07-8/11/2022
4	<i>Balamoola ksheerapaka</i>	50ml BD	11/05-8/11/2022
5	Tab lepteden	2BD	11/05-8/11/2022

Follow-up and outcome

Ultrasonography (USG) was advised at the 8th month (7/08/22) of pregnancy to see the effect of treatment. The USG report showed no obvious amniotic band noted in the present scan [Table 3 & Figure 2] and medicines were continued [Table 2]. Patient was followed throughout the completion of pregnancy by proper antenatal care. By 36week delivered a full-term

single, live, healthy female child of 2.5 kilogrammes with an elective lower segment caesarean section (LSCS). The baby cried immediately after birth reflexes were normal. ABS was ruled out postnatal by confirming the absence

of visible constrictions, amputations, non-midline, and unusual locations of craniofacial parts, body wall defects.

Results:

Table no 3: USG Interpretation BT and AT

Investigation	Before Treatment 21 week 1 day (03/08/22)	After Treatment 27 th week 0 day(07/09/22)
USG	There is stil thin amniotic band measuring 1.9mm in thickness in lower uterine segment from anterior to posterior wall	No Obvious amniotic band noted on present scan.

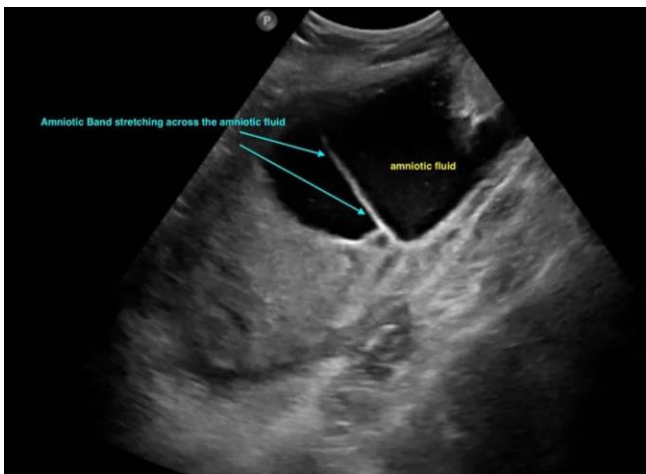


Figure 1: Amniotic band syndrome image measuring up to 1.9mm thickness on 21 week 1 day (03/08/2022)



Figure 2: After intervention on 27th week 0 days (07/09/2022)

3. DISCUSSION:

Jarayu is the membranous covering of the fetus in its intra-uterine life and the liquor amni secreted from amnion as *ambu/ garbhodaka*. [4] All amnion abnormalities, including as aberrant friability, amnionitis, cysts, amnion nodosum, amniotic adhesion, and ABS, are included in any *jarayu* abnormality. According to Acharya Dalhana and Acharya Bhoja, the fetus's umbilical cord is derived from *rasa*, or the essence of food, and the placenta is derived from *rakta*. The phrase *ambu/garbhodaka* was employed by *Jarayu Shesha* during the development of *stanya*, which comes from *rasa*. Acharya Vagabhata even used it in reference to *ulbakaroga*. Due to improper emesis of *garbhodaka* (liquor amni) or because of contact of *sleshma* (mucous) situated in throat with the heart, the *rasa* gets vitiated and encircles or obstructs the *marga* (channels) of *pranavahasrotas* (channel for vital energy). This *ambu* is the liquor amni that is secreted from amnion. Moreover, this causes the child's fist to tighten. The rupture of the *Jarayu* (amnion) causes amniotic band syndrome, which results in the formation of a band wherever it becomes circling.

Rasa dusti and *kapha hara chikista* was adopted as *rasa* and *kapha* have *ashya- ashryi sambanda*. Throughout the pregnancy treatment mainly focused on both mother and fetus growth which was normal in *garbhini deepaniya samskruta Madhura siddha aushda* is the line of management. [5] The Patient was advised tab Lepteden as it consist *Jivanti* as main ingredient Among the *Kakolyadi Gana*. [6] *Jeevanthi* possesses *Madhura Rasa, Sheeta Virya, Madhura Vipaka, Laghu, Snigdha, Sara, Chakshushya, Vrishya, Brimhaniya* and is *Vata Pittahara*. *Garbapalarasa* contains *Hingula, Vanga, Naga* and *Loh bhasma, Shunthi, Maricha, etc.* It has *Deepana, pachana, kledaghna, rasayana* properties, improves *Jatharagni* and *Dhatvagni*, and acts on *rasa dhatu* it helps in formation of *Uttarottar Dhatu poshana* and *Upadhatu* in *garbhini*. As patient had one episode of hard stool due to *apana vayu dushti, Dhanwantari vati* does *vatanulomana*. *Balamoola ksheerapaka* helps in *garbastapaka* so *Ksheerapaka* was recommended. [7] In addition to providing nourishment and balancing *vata, balamoola*, when mixed with *goksheera* (cow's milk), also improves fluid balance and fetal development. An alternative to amnioinfusion, cow's milk naturally raises amino acid levels since it is high in casein and whey proteins [Table 1]

Datri loha is *Kashaya, Ruksha, Sheeta*, and *Tridoshashamaka* specially *Kapha-Pitta Shamaka, Rasayana* and *Yakrututtejaka*. All these drugs have action on *Rasavaha* and *Raktavaha Srotas* and enhance the essence of all the *Dhatu*s and enhance the iron absorption. *Laghmalini vasant rasa* contains zinc; it plays a significant part in raising progesterone. As a

result, it supports pregnancy, particularly during the first trimester. Because the placenta does not mature during the first trimester, the corpus luteum supplements progesterone. The *Rasayana Guna* of *Laghmalini Vasant Rasa* stimulates the corpus luteum to create progesterone, which in turn sustains the *Garbha*. *Laghmalini vasantarasa* contains *yashada Bhasma* which is *Kashaya, Katu rasa, Ruksha Guna, Ushna Viriya, Kapha Pitta Nasakakarma*, and it has *balya* property. [8] The entangling was well reverted back by the formulations given from 16th week to full term as *Rasavaha srotas* and *kapha dosha* was addressed. [Table 1 & 2] Suggested of the present of amniotic band of 1.9mm thickness [Figure 1] but by the end of 27th week there was no signs of amniotic band [Table 2 & Figure 2]

4. CONCLUSION:

As *rasa* is responsible for the formation of *jarayu* any defect can be understood under broad spectrum of *rasa dusti*. *Rasa dusti* and *kapha hara* line of management was adopted. Patient was treated with *Balamoola ksheerapaka, Dhatri loha Laghumalini vasantarasa* from 16weeks up to 36 weeks, Patient was opted for C-section and healthy female baby was delivered. As Amnion is known to cover the fetus as amniotic layer and in similar way *Jarayu* is known to cover the fetus any defect, disruption and dysregulation leads to abnormalities of amnion such as unusual friability, amnionitis, cyst, amnion nodosum, amniotic adhesions along with poly-hydramnios and oligo-hydramnios in ABS and Reconstructive surgery is the recommended course of treatment, wherein Ayurveda emphasis on

Dosha and Dhatu involvement and treatment to be done accordingly.

Declaration of Patient Consent – The authors confirm that they have acquired a patient consent form, in which the patient or caregiver has granted permission for the publication of the case, including accompanying images and other clinical details, in the journal. The patient or caregiver acknowledges that their name and initials will not be disclosed, and sincere attempts will be undertaken to safeguard their identity. However, complete anonymity cannot be assured.

Patient perspective - When the patient was first diagnosed with Amniotic Band Syndrome, they were apprehensive about the fetus's future. The anxiousness progressively subsided as the treatment went on and the fetal growth improved without showing any symptoms on ultrasound. After the intervention and follow-up, individuals reported feeling relieved and satisfied with the results, especially the state of health.

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