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Complications of COVID-19 in Garbh-Ini [Pregnancy] W.S.R. to pre-turm labour

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Abstract

Ayurveda is an ancient science, which deals with prevention of various diseases and also cured from disease. The main aim of *Ayurveda* is 'Prevention is better than cure'. Prasuti Tantra and Streeroga is one of the important subjects in *Ayurveda*, as it is not mentioned in the *Ashtanga Ayurveda*, but it comes under this Kaumarbhritya. Streeroga deals with identification, diagnosis, pathology & treatment of various diseases related to women. *Garbha* is important aspect in women's life. *Garbha* is formed by the fusion of *Shukra* and *Shonita* according to *Ayurveda*. During pregnancy there is progressive anatomical, physiological and biochemical change not only confined to the genital organs but also to all systems of the body. In COVID era, it is causing harm to the human beings; also it is important for Garbh-Ini (pregnancy). Pre-term labor is one of the complications developed due to the COVID-19 in Pregnancy.

Keywords: Garbh-Ini, Pre-term labor, Ayurveda

1. Introduction

Ayurveda is an ancient Indian medical science. Development of foetus is a continuous process of maturation of structures during the different periods of gestation. *Garbhadhana* term in Ayurveda indicates the changes that occur during gestation^[1]. Pregnancy is important phase in every woman's life. For the proper development and growth of the foetus we need to prevent the complications during pregnancy. In today's era, we are facing huge problems around the world. The world is under the threat of COVID-19 infection. Though various effects are being made all over the world, this is still uncontrollable. Pregnant women are at higher risk of morbidity and mortality developed due to COVID-19. It leads to reduce the immune power and also decreased the lung capacity. Therefore, Garbh-Ini avastha (Pregnancy) should be considered important during the time period of COVID. It is reported that COVID-19 development during pregnancy can leads to Preterm birth and stillbirth. According to latest findings of pregnant women with COVID-19 infection, that has existing medical conditions like Diabetes mellitus, Hypertension, Overweight etc, more likely to suffer complications from Covid-19 infection^[2]. *Acharya Charaka* has mentioned Prajasthapana Gana in the *Sutrasthana* of *Charaka Samhita*, for the management of Garbhasthapana. To avoid premature labour this Garbhasthapaka Dravyas are helps to prevent this condition. Here in this case study, this all 10 drugs of Prajasthapana Gana are used in the form of Ksheerapaka for the management of premature labour in Garbh-Ini.

2. Materials & Methods

Case study

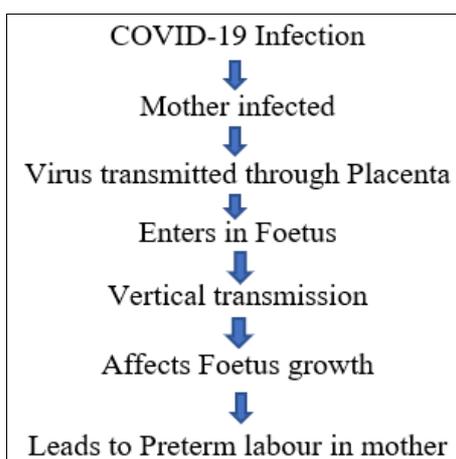
Two Female patients visited department of Streeroga & Prasuti Tantra with complaints of pain in abdomen, lower back pain since from 10-12 days.

Chief complaints

- Pain in abdomen
- Lower back pain

Patient details		
Age	32 years	28 years
Weeks	36 weeks of gestation	35 weeks of gestation
Past history	H/O – Covid-19 [before 5 months]	H/O – Covid-19 [Before 4 months]
Family history	No maternal / paternal history	No maternal / paternal history
Menstrual / Obstetric history	Age of Menarche - 12 years Menstrual cycle - 3-5 days/28-30 days Regularity of menses - Regular Pain during menses - Present LMP - 4/9/20 EDD [USG] - 12/6/21 Married life - G ₃ P ₁ L ₁ A ₁	Age of Menarche – 12 years Menstrual cycle – 4-5 cycle/28-30 days Regularity of menses – Irregular Pain during menses – Present LMP – 22/8/20 EDD [USG] – 30/5/21 Married life – G ₂ P ₁ L ₁ A ₀
Contraceptive history	NAD	NAD
General examination	PR = 76/min BP = 130/90 mm of Hg RR = 18/min Height = 150 cm Weight = 56 kg Temp = 98.6 ⁰ F Pallor = Present	PR = 72/min BP = 120/80 mm of Hg RR = 18/min Height = 147 cm Weight = 71 kg Temp = 98.6 ⁰ F Pallor = Mild
Ashtavidha Pariksha	Nadi = 76/min Mala = Samyaka Mutra = Samyaka Jivha = Alpa Sama Shabda = Prakruta Sparsha = Anushna Druka = Prakruta Akruti = Madhyam	Nadi = 72/min Mala = Samyaka Mutra = Samyaka Jivha = Nirama Shabda = Prakruta Sparsha = Anushna Druka = Prakruta Akruti = Madhyam
Dashavidha Pariksha	Prakruti = Vatapittaja Vikruti = Nasti Sara = Madhyam Samhanana = Madhyam Satva = Madhyam Satmya = Sarva rasa satmya Pramana = Prakruta Vaya = 32 years Aaharashakti = Madhyam Vyayama Shakti = Madhyam	Prakruti = Pittakaphaja Vikruti = Nasti Sara = Madhyam Samhanana = Madhyam Satva = Madhyam Satmya = Sarva rasa satmya Pramana = Prakruta Vaya = 32 years Aaharashakti = Madhyam Vyayama Shakti = Madhyam
Systemic examination	CVS = S ₁ S ₂ normal CNS = Conscious, Oriented RS = AE=BE, Clear	CVS = S ₁ S ₂ normal CNS = Conscious, Oriented RS = AE=BE, Clear
Antenatal examination	P/A – Inspection – Linea nigra, Striae gravida present Palpation – 36 weeks, Fetal parts palpable Auscultation – 154 bpm	P/A – Inspection – Linea nigra, Striae gravida present Palpation – 35 weeks, Fetal parts palpable Auscultation – 150 bpm
Laboratory examination	CBC - Hb = 10 gm/dl Blood group – O +ve HIV – Non reactive HbSag – Non reactive Urine examination – Appearance = Clear, Pus cells = Occasional USG – Single uterine intra-uterine pregnancy of 36 weeks	CBC - Hb = 12 gm/dl Blood group – B +ve HIV – Non reactive HbSag – Non reactive Urine examination – Appearance = Clear, Pus cells = Occasional USG – Single uterine intra-uterine pregnancy of 35 weeks

Pathogenesis



Management

For the management of complication of Covid-19 i.e. Pre-term labour in Garbh-Ini [Pregnancy] both patients were treated with Ksheerapaka of *Dravyas* from Prajasthapana like *Endri*, *Brahmi*, *Shatavirya*, *Sahastravirya*, *Amogha*, *Avyatha*, *Shiva*, *Kutaki*, *Vatyapushpi* & *Vishvakshenan* to avoid

premature labour given for 5 days. *Acharya Charaka* has mentioned +the Ksheerapaka of Prajasthapana Gana in *Sutrasthana* in *Shadavirechanashatashritiya Adhyaya* in which 10 *Dravyas* included for the management of *Prajastha v6pana* or *Garbhasthapana*.

Drug details [7-9]

Drug	Latin name	Family	Rasa	Guna	Virya	Vipaka	Karya
<i>Endri</i>	<i>Centella asiatica</i>	Umbelliferae	<i>Kashaya Tikta</i>	<i>Laghu</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapittashamaka</i> , helps in <i>Aartavajanana</i> . Works on menstrual diseases thus helps in conception. It has <i>Balya</i> , <i>Prajasthapana</i> , <i>Vayasthapana</i> property.
<i>Brahmi</i>	<i>Bacopa monnieri</i>	Scrophulariaceae	<i>Tikta Kashaya Madhura</i>	<i>Laghu</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu guna</i> reduces <i>Kapha</i> , <i>Malas</i> and clear the channels of the body [<i>Strotoshodhana</i>]. Due to <i>Madhura rasa</i> acts as a <i>balya</i> , <i>vatahamaka</i> . <i>Kashaya</i> , <i>Madhura</i> , <i>Tikta Rasa</i> and <i>Shitavirya</i> acts as <i>Pittashamaka</i> so it is <i>Tridoshaghna</i> . <i>Brahmi</i> acts as <i>Rasayana</i> .
<i>Shatavirya</i>	<i>Asparagus racemosus</i>	Liliaceae	<i>Madhura Tikta Kashaya</i>	<i>Guru Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	Acts as <i>Vata pittashamaka</i> . It has oestrogenic effect works on female mammary gland & genital organs.
<i>Sahastravirya</i>	<i>Cynodon dactylon</i>	Graminae	<i>Kashaya Madhura</i>	<i>Laghu</i>	<i>Sheeta</i>	<i>Katu</i>	It acts as <i>Raktastambhaka</i> . It has <i>Pittashamana</i> , <i>Ropana</i> & <i>Kumar Rasayana</i> effect. Extract used in bleeding, strengthens uterus, averts abortion.
<i>Amogha</i>	<i>Stereospermum suaveolens</i>	Bignoniaceae	<i>Tikta Katu</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	Having <i>Tridoshaghna</i> property. Acts as <i>Hridya</i> , used in inflammations.
<i>Avyatha</i>	<i>Tinospora cordifolia</i>	Menispermaceae	<i>Tikta Katu Kashaya</i>	<i>Laghu Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	Acts as <i>Tridoshaghna</i> . It helps in all disorders which causes to infertility.
<i>Shiva</i>	<i>Terminalia chebula</i>	Combretaceae	<i>Panchrasa Lavana varjit</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Haritaki</i> acts as <i>Tridoshaghna</i> , also acts as <i>Rasayana</i> . Due to <i>Katu-Tikta</i> and <i>Kashaya rasa</i> it acts as <i>Kaphaghna</i> . Due to <i>Madhura</i> , <i>Tikta</i> , <i>Kashaya rasa</i> acts as <i>Pittaghna</i> and due to <i>Amla</i> , <i>Madhura</i> & <i>laghu guna</i> it acts as <i>Tridoshahara</i> . It acts as <i>Dipan</i> , <i>Pachan</i> and <i>Anulomana</i> . Also acts as <i>Shulaghna</i> & prevents pre-term labour. Due to <i>Kashaya Rasa</i> it reduces <i>Garbhashaithilya</i> & acts as <i>Prajasthapaka</i> .
<i>Arishta</i>	<i>Picrorhiza kurroa</i>	Solanaceae	<i>Tikta</i>	<i>Laghu Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	Due to <i>Tikta Rasa</i> , <i>Katu Vipaka</i> , <i>Ruksha</i> , <i>Laghu Guna</i> it acts as <i>Kaphaghna</i> . Due to <i>Tikta Rasa</i> and <i>Sheeta Virya</i> it acts as a <i>Pittaghna</i> . <i>Kutaki</i> acts as <i>Vranashodhana</i> & <i>Kledashoshak</i> . Acts as <i>Hridya</i> . <i>Ruksha guna</i> prevents discharge from vagina and give mild dryness so that no premature ruptures membrane & there is no premature labour.
<i>Vatyapushpi</i>	<i>Sida cordifolia</i>	Malvaceae	<i>Madhura</i>	<i>Laghu Snigdha Picchila</i>	<i>Sheeta</i>	<i>Madhura</i>	It acts as <i>Balya</i> , <i>Brunhaniya</i> and <i>Pittashamaka</i> . Due to <i>Madhura rasa</i> and <i>snigdha guna</i> it acts as <i>Vataghna</i> . Due to <i>Madhura rasa</i> & <i>sheeta guna</i> it acts as <i>Pittaghna</i> . It give tone to the smooth muscle. Also acts as <i>Vedanashamak</i> . It reduces <i>Garbhastha dourbalya</i> & provide proper growth.
<i>Vishvakshenan</i>	<i>Callicarpa macrophylla</i>	Verbenaceae	<i>Tikta Kashaya Madhura</i>	<i>Laghu Ruksha</i>	<i>Sheeta</i>	<i>Katu</i>	It has action on <i>Vata</i> and <i>Pitta dosha</i> . It acts as anti-inflammatory, astringent & rejuvenating properties.

Preparation of Ksheerapaka [10]

The ingredients of Prajasthapana Gana were boiled on moderate heat till only milk part remains. As per heating process is carried out for the short duration the water and fat soluble plant principles may not be extracted completely. Hence the preparation become less potent.

Precautions

1. Drugs was used in the fine powder form.
2. Each drug was taken in amount of 10 gm, 80 ml milk was added in 320 ml water.
3. Heating was carried out on *Mandagni*.
4. Ksheerapaka was used in its fresh form; it should not be stored.

General dose

- It can be decided after the consideration of Rogi and Rogabala.
- Not specified in the text.
- But according to *Kwatha Kalpana*, dose is 1 *Pala* = 48 ml. [~40 ml BD]

Observations

The effect of treatment on Pain in abdomen, Lower back pain is as follows;

	Symptoms	Before treatment	After treatment
VAS Scale	Pain in abdomen	9	2
	Lower back pain	10	4

Gradation of symptoms

1 - 3 = Mild; 4 - 6 = Moderate; 7 - 10 = Severe

Discussion

In this case study observations was done before and after treatment based on symptoms.

Kshirapaka of Prajasthapana Gana

Garbhasthapana *Dravyas* includes 10 different drugs which having action over uterus, *Aartava* and helps to cure complications related to the *Garbha* or *Garbh-Ini*. *Endri*, *Brahmi* used in menstrual disorders, acts as *Balya*, *Garbhasthapaka*. *Sahastravirya* and *Shatavirya* acts on *Pitta dosha*, helps in menstrual disorders. *Durva* is one of the important drug for the management of *Raktastrava*, which acts as a *Raktastambhaka*. It has *Madhura*, *Kashaya Rasa*, *Sheeta Virya*, balances *Kapha* and *Pitta Dosha*. *Patala* is one among *Dashamoola* group of herbs. It has *Tikta*, *Kashaya Rasa*, *Sheeta Virya* which acts as *Stambhaka*. *Haritaki* has *Tridoshaghna* effects, while *Kutaki* has *Pittaghna* property which helps to cure premature labour. *Guduchi* is well known immune-modulator drug, *Kashaya*, *Tikta Rasa*, having *Shothaghna*, *Stambhaka*, *Sangrahaka*, *Rasayana*, etc. *Priyangu* has anti-inflammatory action used for various menstrual disorders.

Conclusion

In this case study, all the symptoms like Pain in abdomen, Lower backpain, and also complication of Covid-19 like Preterm labour, are markedly prevent & reduced in 5 days of study duration. In conclusion, Ksheerapaka of *Dravyas* from Garbhasthapana like *Endri*, *Brahmi*, *Kutaki*, *Shatavirya*, *Sahastravirya*, *Haritaki*, *Durva*, *Patala*, *Guduchi*, *Priyangu* is significantly effective, followed by proper *Pathya* & *Apathya*.

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