



Case Study

PUNARNAVASHATA KSHEERABASTI IN THE MANAGEMENT OF EDEMA IN PREGNANCY: A CASE REPORT

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ABSTRACT

Edema is a common physiological symptom in the late pregnancy. The incidence of dependent edema in normal healthy pregnant women is reported to be 50-80% in third trimester. It is caused mainly due to sub-cutaneous fluid retention and by the pressure of the expanding uterus on the vessels supplying the lower extremities. In Ayurveda, *Shotha* (edema) in pregnancy is described in the context of *Garbhini Vyadhi* (disorders of pregnancy). *Punarnavashtaka Kwatha* having the *Shothahara* property is therefore been taken up in this case and is administered in *Ksheerapaka* form and given as *Basti* (enema). In this case study, a 20 year old pregnant lady with 36 weeks 4 days of amenorrhoea, complaining of edema in the extremities and face along with scanty and burning micturation associated with pain abdomen was treated with *Punarnavashtaka Kwatha Ksheera Basti*, administered for 10 days once in the morning in the dose of 450 ml per day. Patient got complete relief from the edema, pain and urinary complaints within the course of treatment period. Pregnancy related physiological edema, anemia and urinary discomforts can be treated by *Punarnavashtaka Kwatha Ksheera Basti* alone. It prevents further complications of edema, without any undue side effects, with economical and easy administration.

KEYWORDS: *Garbhini Shotha, Ksheera Basti, Punarnavashtaka Kwatha, edema in pregnancy.*

INTRODUCTION

Edema is an abnormal accumulation of fluid in the interstitial tissues. Clinically edema manifests as swelling. Edema is very common during pregnancy, especially in the second and third trimesters. Studies show that up to 80% of all pregnant women suffer from pitting edema. The result of increased blood flow and pressure of the growing uterus on the pelvic veins and vena cava causes edema. It presents with mainly ankle edema which reduces on rest, unassociated with other features of pre eclampsia, proteinuria, cardiac, renal and hematological pathologies. During pregnancy, the body requires an additional amount of fluid in order to meet the baby's requirements and to increase the blood circulation. Thus the body continues to retain water. This fluid buildup is so severe that if it is pushed towards extremity with finger, the flesh will remain depressed for a while, before it bounces back into place causing pitting edema^[1].

Early detection and appropriate treatment is the need of the hour to reduce the edema and to prevent the complications arising due to severe edema such as hypertension, cardiac failure, renal disorder, anemia, pre-eclampsia etc.

In Ayurveda, *Shotha* (edema) in pregnancy is specially described in the context of *Garbhini Vyadhi* (disorders in pregnancy). Harita has mentioned it as one among *Garbha Upadravas* ^[2]. In Bhaishajya Ratnavali, we find the reference of *Punarnavashtaka Kwatha* mainly indicated in *Sarvanga Shotha* (generalized edema), *Udara* (abdominal disorders), *Shoola* (pain) and *Pandu* (anemia) ^[3]. Therefore the administration of this drug would be beneficial in edema related to pregnancy. The ingredients of *Punarnavashtaka Kwatha* consists of a dominance of

Tikta (bitter), *Kashaya* (pungent) taste, *Ushna Veerya* (hot in potency) and *Ruksha* (dry) property. Therefore it is administered in *Ksheerapaka* (medicated milk) form in pregnancy to nullify its *Tikshnata* (sharp and penetrating effect). Qualities of milk such as *Madhura* (sweet), *Sheeta* (cold), *Snigda* (unctuous) etc. have been potentially used as a medicine by combining it with by using in *Ksheerapaka* (medicated milk) form' with 'in the form of *Ksheerapaka* (medicated milk. Also the drug can be given in larger dose for immediate result by extensive absorption of the drug. Therefore, *Punarnavashtaka Kwatha Ksheerabasti* is planned in this case study.

Case Report

A 20 year old female, primi gravida with married life of 1 year 6 months, visited the Prasutitantra & Streeroga, O.P.D., I.P.G.T. & R.A., Jamnagar on 12/7/2016 with amenorrhoea since 36 weeks 4 days, complaining of mild pain in abdomen occasionally along with edema in arms, face, legs and ankle which decreases on rest, associated with scanty and burning micturation since 1 month. Her LMP was on 30/10/2015 and EDD on 6/8/2016. It was her first visit to the hospital as she had her previous antenatal checkups in a local private hospital. General condition of the patient was healthy, pallor was present and edema was of pitting type in both the ankle region. Vitals being BP 110/70 mm of Hg, pulse rate 80/min, respiratory rate 20/min and temperature 98.6^oF. Height of the patient was 154 cm and weight was 80kg. Per abdomen examination revealed fundal height corresponding to 34 weeks of gestation, fetal heart rate 148/min and fetal movements were present, lie was longitudinal with cephalic presentation. Contractions were

absent, no tenderness, no pain on palpation. On examination, mild edema in face was noticed and bilateral moderate edema in arms, legs and ankles were present. Edema was of pitting type in the ankles.

Patient was admitted in the I.P.D., Prasutitantra & Streeroga ward, I.P.G.T. & R.A., Jamnagar. Complete bed rest with foot end elevation was advised. Routine investigations were carried out as tabulated in Table 1.

Table 1: Investigations carried out on admission

Hematological Investigations	Urine Routine & Microscopic	Abdominal Ultrasonography
Hemoglobin - 8.2 gm% ESR -74mm/hr Total WBC- 9000/cu mm Total RBC- 3.03 mil/cu mm RBS-80mg/dl	Sugar-nil Albumin + Epithelial cells-10-12 Pus cells- many	Single Live Intrauterine Pregnancy Presentation-Vertex Cardiac activity-present Liquor- Adequate Placenta-Right Fundo lateral wall Grade-2 Estimated fetal weight-2.4 kg Gestation period- 32.4 weeks

ESR- Erythrocyte Sedimentation Rate

WBC- White Blood Cell

RBC- Red Blood Cell

RBS- Random Blood Sugar

Patient was advised *Punarnavashthaka Kseerabasti* once a day for 10 days. *Basti* (enema) was prepared daily in the required quantity and administered slowly to the patient in left lateral position without any prior *Abhyanga* (oil massage) or *Swedana* (fomentation). The posology details are given below in Table 2.

Table 2: Punarnavashthaka Kseerabasti

Drug	Route	Dose	Duration
<i>Punarnavashthaka Yavakuta Choorna</i> (30 gm) + <i>Go-Kshira</i> (450 ml) + Water (450 ml)	<i>Gudamarga</i> (rectal)	450 ml of <i>Ksheerapaka</i>	10 consecutive days in the morning after light breakfast

Patient was under observation during 10 days of *Basti* (enema) period. Her BP was in normal range throughout. Weight of the patient on 10th day reduced to 78.5kg, with complete relief in the abdominal pain. Edema in the face and arms were completely reduced by 4th day. Edema in the legs and ankles were relieved by 7th day. Burning micturation was reduced completely. Urine investigation after treatment showed sugar-nil, albumin-nil, pus cells-nil, epithelial cells 1-2. Hemoglobin increased to 9 gm%. Patient was discharged on 10th day with regular ANC medicines.

Discussion on Drug

Punarnavashtaka Kwatha Choorna contains eight ingredients as shown in table 3. For *Ksheerapaka Basti* preparation, coarse powder of ingredients of *Punarnavashtaka Kwatha* were taken 1 part (30 g) and boiled with 15 parts of water (450 ml) and 15 parts of milk (450 ml) in slow and uniform heat until only the milk part remains [4]. This *Ksheerapaka* (medicated milk) was allowed to cool upto room temperature, filtered and then administered through the rectal route (450 ml). The properties of the drugs, its pharmacological actions etc are listed in table 4.

Table 3: Ingredients of Punarnavashtaka Kwatha Choorna

S.No	Drug	Latin name	Family	Part used	Quantity
1	<i>Punarnava</i>	<i>Boerhavia diffusa</i> L.	<i>Nyctaginaceae</i>	Root	1 part
2	<i>Nimba</i>	<i>Azadirachta indica</i> A.Juss.	<i>Meliaceae</i>	Bark	1 part
3	<i>Patola</i>	<i>Trichosanthes dioica</i> Roxb.	<i>Cucurbitaceae</i>	Leaves	1 part
4	<i>Shunthi</i>	<i>Zingiber officinale</i> Roscoe.	<i>Zinziberaceae</i>	Rhizome	1 part
5	<i>Tikta</i>	<i>Picrorhiza kurroa</i> Royle ex Benth.	<i>Scrophulariaceae</i>	Root, Rhizome	1 part
6	<i>Abhaya</i>	<i>Terminalia chebula</i> Retz.	<i>Combretaceae</i>	Fruit	1 part
7	<i>Darvi</i>	<i>Berberis aristata</i> DC.	<i>Berberidaceae</i>	Rhizome	1 part
8	<i>Amruta</i>	<i>Tinospora cordifolia</i> (Willd.) Meirs	<i>Menispermaceae</i>	Stem	1 part

Table 4: Properties and action of Punarnavashtaka Kwatha drugs [5,6,7]

S.No	Drug	Action
1	<i>Punarnava</i>	<i>Tridosha Hara</i> (pacifies the body humors), <i>Deepana</i> (stomachic), <i>Anulomana</i> (carminative), <i>Shothagna</i> (relieves edema), <i>Rasayana</i> (rejuvenator), anti-inflammatory, diuretic, hepato-protective, act on urinary disorders, reduce water retention and edema.
2	<i>Nimba</i>	<i>Kaphapitta Shamaka</i> (pacifies <i>Kapha</i> and <i>Pitta</i>), <i>Krimighna</i> (anti- helmenthic), <i>Yakrut-uttejaka</i> (stimulates liver), <i>Aampachaka</i> (digests <i>Ama</i>), urinary astringent, diuretic, stomachic, immunomodulatory, hepatoprotective, anxiolytic.
3	<i>Patola</i>	<i>Rechana</i> (mild purgation), <i>Deepana</i> and <i>Pachana</i> (stomachic), <i>Shothahara</i> (relieves edema), anti-

		inflammatory, carminative, pacifies the body humors.
4	<i>Shunthi</i>	<i>Kaphavatashamaka</i> (pacifies <i>Kapha</i> and <i>Vata</i>), <i>Udara</i> (relieves abdominal disorders), <i>Aampachana</i> (digests the undigested un-metabolized food), rejuvenator, relieves edema, stomachic, carminative, anti-inflammatory.
5	<i>Tikta</i>	<i>Rechana</i> (mild purgative), alleviates <i>Pitta</i> , stimulates liver, relieves edema, diuretic, stomachic, anti-inflammatory, hepato-protective, reduce urinary disease, antioxidant, free radical scavenging.
6	<i>Abhaya</i>	Pacifies <i>Tridosha</i> , carminative, mild purgative, rejuvenator, stomachic, stimulates liver, anti-inflammatory, uterine tonic, cures dysuria and retention of urine, reduces congestion, relieves edema and abdominal disorders.
7	<i>Darvi</i>	<i>Svedajanana</i> (causes sweating), pacifies <i>Kapha</i> and <i>Pitta</i> , relieves edema, stimulates liver, anti-inflammatory, appetizer, hepato-protective, reduce water retention, immuno-stimulatory, relieves urinary tract infection.
8	<i>Amruta</i>	Pacifies <i>Tridosha</i> , carminative, anti-inflammatory, stomachic, digestive, hematinic, hepato-protective, antistress, adaptogenic, mild diuretic, immuno-modulator, antioxidant, curative of edema, urinary disorders, burning sensation, anemia, dysuria and abdominal related disorders.

DISCUSSION

Punarnavashtaka Kwatha consists of drugs mainly having *Shothahara* properties and is apt in condition of pedal edema or generalized edema in pregnancy. Since *Ruksha* (dry) and *Ushna* (hot) properties are more in the *Kwatha* (decoction) form, it cannot be given in large dose especially in pregnancy. Therefore the drug is given in *Ksheerapaka Basti* (medicated milk enema) form as the *Katu* (pungent), *Tikshna* (sharp), *Ruksha* (dry) and *Ushna* (hot) properties are normalized by boiling it with milk having *Sheeta* (cold), *Madhura* (sweet), *Snigdha* (unctuous) properties. Also in the *Basti* (enema) form, large quantity of drug can be delivered without any undue issues on palatability or any other side effects.

Shothahara properties present in the formulations plays major role in reducing the edema. By the diuretic action of the drugs, it flushes out the toxins and excess fluid retention, relieving the complaints of urine infection and scanty micturation. Immunomodulatory and *Rasayana* (rejuvenator) properties are beneficial in overcoming *Garbhini Vyadhi* (disorders in pregnancy). *Vatanulomana* (carminative), *Deepana* and *Pachana* (stomachic) properties act on *Agni* (digestive fire), normalizing the digestion and metabolism. Pain is subsided by the *Shoolahara* (analgesic) action of the formulation. Many of the contents have *Yakrut-Uttejaka Guna* (stimulates liver) along with action on *Pandu* (anaemia). Therefore the formulation may have positive effect on *Rakta Dhatu* (blood and circulatory system) thereby preventing anemia in pregnant lady. Milk further nourishes the tissues of mother and the fetus.

CONCLUSION

Edema in pregnancy can be efficiently managed by Ayurvedic drugs. Generalized edema in pregnancy, involving the face, arms, legs, ankle and feet were resolved

within ten days by mere administration of *Punarnavashtaka Kwatha* formulation in the *Ksheera Basti* form. It relieves the edema, reduces the water retention and also cures burning & scanty micturation along with urinary tract infections efficiently. Endowed with immunomodulatory, antioxidant, adaptogenic, hepato-protective properties, it rules out any side effect of the drug on the growing fetus.

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