Gestational Hypertension an Ayurvedic Perspective

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Abstract:
Hypertensive disorders of pregnancy is one of the common complication met during pregnancy, which contributes to significant maternal and fetal morbidity and mortality. They are preventable by early detection and appropriate treatment and possibly by prevention of disease itself. Ayurveda can definitely contribute in this regard. On looking to the symptoms and understanding etiopathogenesis with an Ayurvedic approach. Vata dusti is main causative factor in the manifestation of the disease. As disease progresses involvement of other Dosha is seen. As Dushya are Hridaya, Dash dhamsanya, Sira, Ras raktvastra srotasa, Manovaha srotasa, Ras dhatu, Rakt dhatu and Manna, treatment should be Vaatashaman, Pittashama, Hridya, Shothahara, Raktashaman, Balya, Anulomana .

Key words : PIH, HDP, Hypertension, Garbhnini

Introduction :
Hypertensive disorders of pregnancy (HDP) remains amongst the most significant intriguing unsolved problems in obstetrics.5-10% of all pregnancies are complicated with this disorder &16% of all maternal deaths contribute to this disorder1. Still the exact mechanism by which pregnancy incites or aggravates hypertension remains unsolved. As per Ayurvedic principles, in case of unknown disease, the physician should try to understand the nature of disease through doṣh dusṣya & samprapti & should initiate the treatment .So it becomes our prime concern to understand gestation hypertension thoroughly with Ayurvedic perspective.

This article is a sincere effort to understand gestational hypertension in terms of Ayurveda, which will be beneficial for treatment & prevention of such deadly disease & ultimately help reduce maternal mortality & improve fetal outcome .

Aims & Objectives :
To find out factors involved in gestational hypertension & to explain the same in terms of Ayurveda

Material &Method:
To study sign &symptoms resembling gestational hypertension with Ayurvedic perspective , classical books on Ayurveda , modern literature ,available
research updates & scientific information available from internet ,etc were searched &analysed .

**Literature review : Conceptual Study**

Review of literature in detail related to *Garbhini Shotha* as per *Bruhatrayi*, *Laghutrai* and other classics of *Ayurveda*. Review of Hypertensive disorders of pregnancy according to modern literature.

**Disease Review**

According to Williams 25 th edition Hypertensive Disorders of Pregnancy can be classified as:

a) Gestational Hypertension:
   This diagnosis is made in women whose blood pressure reach 140/90mm of hg or greater for the first time after mid pregnancy but in whom proteinuria is not identified and blood pressure returns to normal by 12 weeks postpartum.

b) Pre eclampsia :
   It is described as pregnancy specific multisystem disorder of unknown etiology characterized by development of hypertension to the extent of 140/90 mm of hg or more with proteinuria after the 20th week in previously normotensive and non proteinuric patient. Pathological edema on ankle is present. Headache, visual disturbances, epigastric pain, diminished urine output may suggest progressive or severe disease leading to eclampsia.

c) Eclampsia:
   In a women with pre eclampsia a convulsion that cannot be attributed to another cause is termed as eclampsia

d) Chronic hypertension of any etiology

e) Pre eclampsia superimposed on chronic hypertension

While reviewing *Ayurvedic* literature all the above symptoms are found scattered like *Garbhini Shotha* (Pathological Oedema), *Garbhini Aakshepaka* (Convulsions), *Garbhini Mutragraha* (Oliguria) etc. under the different heading like *Garbhopadravas*, *Garbhavyapada*, *Arishta Lakshanas*, *Asadhya Lakshanas* of *Mudhagarbha* showing importance of the conditions. To better understand the condition *Ayurvedic* method of *Nidan Panchaka* was applied to have all round view.

**A. Nidana (Etiology)**

In *Ayurveda* our *Aacharya* s have mentioned *Garbhopghatakara bhava* i.e. dietetics and mode of life contraindicated for pregnant woman. So, when pregnant woman follows *Garbhopghatakara bhava* can lead to disease of *Garbhini*. Currently known etiological and provoking factors can be better understood when compared with different etiological factors given in *Ayurvedic* classics

1. Potential causes of Hypertensive disorders of pregnancy:

   (1) Abnormal trophoblastic invasion of uterine vessels or Poor placentation - Kroshana Jataharini, the fetus situated in Kukshi (uterus) creates various complications. & with the delivery of the fetus (&placenta) most of the symptoms of HDP disappears. Also Sharangadhara has described Jaraayudosha under Ashta Garbhavyapat which can be taken as abnormal formation of placenta. These mark the direct reference of defective placentation (abnormal trophoblast invasion of uterine vessels)

   (2) Immunological intolerance between maternal and fetoplacental tissues

   *Acharya Sushruta* has denoted Garbha as *‘shalya’* (Foreign body). Thus it can create *Shoth* (inflammatory response) in the maternal body which denotes
etiology of Immunological maladaptive tolerance between maternal paternal (placental) & fetal tissues.
2. Primigravida and Extremes of maternal age: Primigravida and young maternal age shows immature system to tolerate stress of pregnancy while Elderly age shows increased Vaata predominance.
3. Dietary and environmental factors: Excessive salt intake, Alcohol intake, smoking can cause vitiation of Pitta predominant Vaata condition in Pranavaha and Rasavaha Srotas leading to various manifestations.
4. Genetic considerations: Genetic and constitutional factors can be compared with Beeja Dosha due to shukra shonita vikruti.
5. Long intervals between pregnancies (Nivritta Prasava): In Sushruta Samhita it is mentioned that after six years of Nivritta Prasava-(from last six years one who had not delivered baby) if women conceived than born baby does not live for long period. Individual studies show that risk is also increase with an interval of 10 years or more, since a previous pregnancy. Probable reason for this could be that with advancement in age DNA degeneration starts, which may lead to some defects in genes that can cause defects in formation of placenta. This is again Vaata predominant condition.
6. Psychological factors:
   - Chinta, Bhaya, and Shoka these factors have the propensity to vitiate different Dosha.
   - Chinta: Vata Prakopa
   - Shoka: Vata Prakopa
   - Bhaya: Vata Prakopa

7. Seasonal Variations: Through researches it is found that the incidence of Eclampsia is significantly higher in monsoon, which is again period of Vaata prakopa.
8. Low socioeconomic status: Women of Poor and under privileged sector are malnourished because of nutritional deficiency, they have Dhatu Kshaya Avastha thus Vata Vriddhi.
9. Obesity: Ayurveda describes Shoulya Dosha, where it mentions that excessive meda obstructs Vaata which causes various diseases.

B. Purvarupa: Like Vaatavyaadhi purvarupa of HDP are Avyakta i.e. absent or non severe form.

C. Rupa (Symptomatology):
Following features are present in the HDP:
1. Uchharakchapa(Hypertension): This condition is generally seen in old age which is Vaata predominant age. Also According to Sushruta and Vagbhatta, Vyana Vayu with its seat in Hridaya controls functions of Rasa and Rakta Samvahana in the entire body. In this way Vyana Vayu controls B.P. by maintaining blood circulation. Hence Hypertension can be considered as Vaata especially Vyana Vaayu related condition.
2. Proteinurea
3. Oedema: Aacharya Kashyapa describes Vaayu as a main Hetu of Shotha. Also in HDP initially oedema is on Lower extremities and is relieved by rest, which again denotes Vaata type of Shotha.
4. Garbhini Chardi (Vomiting): it is present in severe disease only
5. Garbhini Mutragaraha (Oligouria): Due to Oedema the fluid is retained in the body which results into
Oliguria, thus it is actually a sequel, not an independent sign.

6. **Garbhini Shiroroga** (Headache): May be occipital or frontal, may be pulsatile or dull, continuous or intermittent. Pain itself is a *Vaata* predominant condition and its nature also denotes *Vaataja* type of *Shiroroga* with variations as per *Anubandha*.

7. **Bhrama** (Giddiness): *Pitta* and *Vaata* are responsible, *Pittavrutta Vaata* also can be the cause.

8. **Klama** (Tiredness without work): *Vata Prakopa* results in the vitiation of *Rasa* and *Rakta* which causes *Klama*.

9. **Nidranasha** (Disturbed sleep): can be related to *Vaata* and *Pitta vridhī*.

10. **Garbhini Aakshepaka** (Convulsions/Eclampsia): *Aakshepaka* is a *Vaatavyaadhi*. They occur more commonly in the third trimester and in 50% of cases fits occur before the onset of labour. More often, labour starts soon after it. It again denotes *Vaata kaala*.

11. **Viparitendriyarthā** (Visual Disturbance): Dalhana has mentioned it in the symptoms of Asadhya Mudhagarbha.

**D. Upashaya**

Aushadhi, Aahara and Vihara which are helpful in Shamana of diseases, called as Upashaya.

So, Upashaya for HDP are -

1. Rest (In left lateral position)
2. Nutritious diet
3. Avoidance of excessive sodium diet (Ati-lavana Rasa)
4. No smoking
5. Pranayama and Yoga
6. Mentally cheerful conditions
7. Following Garbhini Paricharya

All Upashaya are Vaata and Pitta shamaka

**Anupashaya**

Anupashaya for HDP are –

(1) Vatakara Aahara Vihara
(2) Excessive intake of Lavana
(3) Excessive exercises
(4) Stress, strain etc.
(5) Ratrijagran, Divasvapa
(6) Vyavaya

All Anupashaya are aggravating Vaata and Pitta.

**E. Samprapti of gestational hypertension:**

**Dosha-**

Bycorrelating clinical features of gestational hypertension according to modern & predominant dosha according to Ayurveda it can be asserted that the disease Gestational Hypertension is *vatta pradhan tridoshaj vyadhi*.

- Oedema – *Vata + Kapha*
- Headache – *Vata+ Pitta*
- Palpitation – *Vatta*
- Insomnia – *Pitta + Vata*
- Easy fatigability – *Vata + Pitta*
- Fainting – *Pitta +Vata*
- Dizziness – *Vata*
- Blurring of vision – *Vata + Pitta*
- Constriction of vessels – *Vata*

**Dushya (Adhishthan):**

By taking all symptoms & pathophysiology of Gestational hypertension in consideration following structures can be included in *adhishtan*.

- *Hridaya*
- *Dash dhamanya*
- *Sira*
- *Ras raktvaha strotasa*
- *Manovaha strotasa*
- *Ras dhatu*
- *Rakt dhatu*
- *Manna*
Samprapti:
Hypertension is stated as haemodynamic disease where word haemodynamic denotes movement of blood & the force concerned with it. Sushruta has described panchabhotikatva of rakt dhatu in which spandan gun is karma of vayu mahabhuta. Dalhan has also commented that spandan means “kinchit chalanam”\(^{29}\). If anyhow this chal gun of rakt is increased, it becomes one of the pathophysiological factors of gestational hypertension & can manifest high blood pressure.

In Ayurveda whole blood is stated as “apya bhava” of body & rakt dhatu is considered under rasa dhatu by chakrapani\(^{30}\). Therefore whole blood may be stated as rasrakt strotas. Hence Rasa Rakt dhatu are chief involved dushya in symptomatology of gestational hypertension.

Kashyapa has explained that the rasa dhatu formed by mother has three functions\(^{31}\):

- akshepaka, garbhihi apatanraka, garbhihi apatanaka, mudha garbha, garbha shosha, jatahariani and garbhihi arishta lakshanas are the conditions which give some understanding of HDP. Vata dusti is main causative factor in the manifestation of the disease. As disease progresses involvement of other Dosha is seen. As Dushya are Hridaya, Dash dhamanya, Sira, Ras raktvaha strotasa, Manovaha strotasa, Ras dhatu, Rakt dhatu and Manna, treatment should be Vaatashaman, Pittashaman, Hridaya, Shothahara, Raktashaman, Balya, Anulomana.

- a) Poshan of mother
- b) Poshan of garbh
- c) Formation of stanyan

When due to nutritional deficiency rasakshaya takes place, it leads to vitiation of vata & it ultimately results in shotha & hypertension (as vyan vayu is responsible for rasraktkshep). Main site of vayu is pakvashaya. After 5\(^{th}\) month when fetus starts growing up in abdomen, uterus puts pressure on pakvashaya, it causes vitiation of vata, leading to development of shoth.

Samprapti ghatak:
- Dosh – vatapradhan tridosh
- Dushya – Rasa, Rakt
- Agni – ras, rakt, jathar agni
- Strotas – ras, rakt, manovaha
- Strotodushti prakar – sang
- Udhhavasth – amashaya, pakvashaya
- Vyalti sthana – sarvasharir
- Rog marg – baha madhya
- Avayava – hridaya dhamani
- Sadhyasadhya – kriccha sadhya

References:

1. Williams Obstetrics, 23rd edition, Section7, Obstetrical complications, Chapter 34, Pregnancy hypertension, pg 710.


9 Vidyotini Vyakhya, Charaka Samhita, Chaukhamba Bharati Academy, 2005, Ch. Sha. 8/21, p941

10 Williams Obstetrics, 23rd edition, Section 7, Obstetrical complications, Chapter 34, Pregnancy hypertension, pg 710.


12 Sushrut samhita, anantram Sharma, chaukhamba prakashan, Varanasi, sushrut sutrasthan .27/5, pg.no.225

13 Ayurveda Tattva Sandipika, Sushruta Samhita, Chaukhambha Samskrita Sansthana, Varanasi, 2005, Su Sha 10/70, p84.


15 BMC women's Health, Seasonal variation in the incidence of preeclampsia and eclampsia in tropical climatic conditions, 15 October 2007.


18 Vidyotini Vyakhya, Charaka Samhita, Chaukhamba Bharati Academy part I, 2006, Ch. Su. 21/5-8, p432

19 Vidyotini Vyakhya, Charaka Samhita, Chaukhamba Bharati Academy part II, 2006, Ch. Chi. 28/19 p780.

20 Ashtanga Samgraha with Shashilekha Samskrita Commentary by Indu, Chaukhamba Samskrita Series Office, Varanasi, A. S. Sha. 6/43


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