

## 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 dhamanya, Sira, Ras raktvaha strotasa, Manovaha strotasa, Ras dhatu, Rakt dhatu and Manna*, treatment should be Vaatashaman, Pittashamana, Hridya, Shothahara, Raktashaman, Balya, Anulomana .

**Key words :** PIH, HDP, Hypertension, *Garbhini*

### 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 disorder<sup>1</sup>. 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 *dosh dushya & 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<sup>2</sup>

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 20<sup>th</sup> 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*<sup>3</sup> (Pathological

Oedema), *Garbhini Aakshepaka*<sup>4</sup> (Convulsions), *Garbhini Mutragraha*<sup>5</sup> (Oliguria) etc. under the different heading like *Garbhopadravas*<sup>3</sup>, *Garbhavyapada*<sup>6</sup>, *Arishta Lakshanas*<sup>7</sup>, *Asadhya Lakshanas* of *Mudhagarbha*<sup>8</sup> 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*<sup>9</sup> 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<sup>10</sup>:

(1) Abnormal trophoblastic invasion of uterine vessels or Poor placentation - *Kroshana Jataharini*<sup>11</sup>, 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*<sup>6</sup> which can be taken as abnormal formation of placenta. These mark the direct reference of **defective placentation** (abnormal trophoblasti invasion of uterine vessels)

(2) Immunological intolerance between maternal and fetoplacental tissues

*Acharya Sushruta* has denoted *Garbha* as '*shalya*'<sup>12</sup>. (Foreign body). Thus it can create *Shoth* (inflammatory response) in the maternal body which denotes

etiopathogenesis 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<sup>9</sup>, 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*)<sup>13</sup>: 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<sup>1</sup>. 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*<sup>14</sup>.

- *Chinta*: *Vata Prakopa*
- *Shoka*: *Vata Prakopa*
- *Bhaya*: *Vata Prakopa*

7. Seasonal Variations<sup>15</sup>: 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<sup>16</sup>: Women of Poor and under privileged sector are malnourished because of nutritional deficiency, they have *Dhatu Kshaya Avastha* thus *Vata Vriddhi*.

9. Obesity<sup>17</sup>: *Ayurveda* describes *Sthoulya Dosha*<sup>18</sup>, where it mentions that excessive *meda* obstructs *Vaata* which causes various diseases.

**B. Purvarupa**: Like *Vaatavyaadhi purvarupa* of HDP are *Avyakta*<sup>19</sup> i.e. absent or non severe form.

**C. Rupa (Symptomatology) :**

Following features are present in the HDP-

1. *Uchharaktchapa*(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<sup>20</sup>. 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*<sup>21</sup>. Also in HDP initially oedema is on Lower extremities and is relieved by rest, which again denotes *Vaataja* 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<sup>22</sup> and its nature also denotes *Vaataja* type of *Shiroroga* with variations as per *Anubandha*.
7. *Bhrama*(Giddiness): *Pitta* and *Vaata* are responsible, *Pittavrutta Vaata*<sup>23</sup> 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*<sup>24</sup> and *Pitta vriddhi*<sup>25</sup>.
10. *Garbhini Aakshepaka*(Convulsions/Eclapsia): *Aakshepaka* is a *Vaatavyaadhi*<sup>24</sup>. 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<sup>26</sup>. It again denotes *Vaata kaala*.
11. **Viparitendriyarthha** (Visual Disturbance): *Dalhana* has mentioned it in the symptoms of *Asadhya Mudhagarbha*<sup>27</sup>.

#### D. Upashaya

*Aushadhi*, *Aahara* and *Vihara* which are helpful in *Shamana* of diseases, called as *Upashaya*<sup>28</sup>.

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) *Ratrijagrana*, *Divasvapa*
- (6) *Vyavaya*

All *Anupashaya* are aggravating *Vaata* and *Pitta*.

#### E. Samprapti of gestational hypertension :

##### Dosha-

By correlating 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 *adhishthan*.

- *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 *panchabhutikatva* of *rakt dhatu* in which *spandan gun* is karma of *vayu mahabhuta*. Dalhan has also commented that *spandan* means “*kinchit chalanam*”<sup>29</sup>.

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*<sup>30</sup>. 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 *ras dhatu* formed by mother has three functions<sup>31</sup>:

- akshepaka, garbhini apatantraka, garbhini apatanaka, mudha garbha, garbha shosha, jataharini and garbhini 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, Pittashamana, Hridya, Shothahara, Raktashaman, Balya, Anulomana*.

- a) *Poshan* of mother
- b) *Poshan* of *garbh*
- c) Formation of *stanya*

When due to nutritional deficiency *ras kshaya* takes place, it leads to vitiation of *vata* & it ultimately results in *shotha* & hypertension (as *vyan vayu* is responsible for *rasraktshap*). Main site of *vayu* is *pakvashaya*. After 5<sup>th</sup> 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*
- *Udhhavsth* – *amashaya, pakvashaya*
- *Vyalti sthana* – *sarvasharir*
- *Rog marg* – *bahya madhyam*
- *Avayava* – *hridaya dhamani*
- *Sadhyasadhya* – *krichha sadhya*

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