GARBHINI MADHUMEHA AND ITS MANAGEMENT W.R.T GDM - A CONCEPTUAL STUDY

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ABSTRACT
Diabetes anomalously impact on pregnant women through the threats its poses to maternal and fetal health. In Bhasajya Ratnavali, it is mentioned that excessive use of aimadhura, atigura, paryushita ahaara & atitihoyja will lead to ojomeha in garbhini. Acharyas have advised brumhana for garbhini and indicated hrudya, drava, madhura, snigdha aahara for her. All these increases kapha dosha which is also the main responsible dosha for madhumeha. Dushit kapha leads to dushhi of dhatus and updhatus resulting in maternal and fetal complications. So, if garbhini takes kapha vardhak aahara vihaar other than indicated or prakriti virudh ahaara she may be diseased by madhumeha. The pregnant women should be treated just like a pot filled with oil, as slightest oscillation of such pot causes spilling of oil, similarly slightest excitement to the pregnant woman can initiate abortion. Acharya kashyapa has mentioned that physical & psychological disorders of a garbhini are similar to any other individual due to similarity in dosha and dushya, but their treatment differ in Garbhini. At the same time they contraindicated Atirapanas and Guru Ahaara to her. Her Dooshit Kapha lead to Dushhi of Dhatus and Updhatus resulting in fetal complications. It can be prevented by screening them for their Prakriti and managed if diseased Garbhinimadhumeha by Samshaman Chikitsa after studying their constitution and Dosh Dushta Dushti. Diabetes in a pregnant mother can either be a pre-existing or GDM. “Gestational diabetes mellitus” is defined as carbohydrate intolerance with onset or first recognition during present pregnancy. GDM usually presents late in the second or during the third trimester.

KEYWORDS: Garbhini madhumeha, samprapti, prakritiparikshan, Samshamana Chikitsa, GDM.

INTRODUCTION
Women diagnosed to have GDM are at increased risk of future diabetes, predominantly type 2 diabetes mellitus. Pregnancy is characterised as a diabetogenic state in which insulin resistance occurs. In order to maintain glucose homeostasis, the pancreatic beta cells need to secrete more insulin. Hyperglycemia in pregnancy has adverse effects on both mother and fetus as macrosomia, polyhydramnios, birth trauma, and recurrence of GDM in subsequent pregnancies. About 1-14 % of all pregnancies are complicated by DM and 90% of them are GDM. Nearly 50% of women with GDM will become overt diabetes (Type-II). Although diabetes during pregnancy is often asymptomatic, the consequences are substantial. Metabolic derangements may present at the time of conception. The availability of insulin, beginning in 1922, restored fertility and virtually abolished maternal mortality. Prevention of GDM should start intrauterine and continue throughout pregnancy & postpartum. Classification of Diabetes in pregnancy are:
1. Overt Diabetes: Women known to be diabetic before the onset of pregnancy.
2. Gestational Diabetes: This diagnosis is made when diabetes is detected in the course of the pregnancy and is defined as carbohydrate intolerance of variable severity first diagnosed during pregnancy.

Distinguish GDM from Pre-gestational DM
Abnormal Glucose Tolerance, onset with pregnancy or detected first time during pregnancy, no h/o of pre pregnancy DM or IGT, HbA1c is usually 5-6 % is desirable in GDM, in DM + Pregnancy it is > 7.5 , GDM is a forerunner of T2DM.

The White classification of gestational diabetes

<table>
<thead>
<tr>
<th>Class</th>
<th>Onset</th>
<th>Fasting plasma glucose</th>
<th>2 hr postprandial glucose</th>
<th>Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Gestational</td>
<td>&lt;105 mg/dl</td>
<td>&lt;120 mg/dl</td>
<td>Diet</td>
</tr>
<tr>
<td>A2</td>
<td>Gestational</td>
<td>&gt;105 mg/dl</td>
<td>&gt;120 mg/dl</td>
<td>Insulin</td>
</tr>
</tbody>
</table>

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Epidemiology
The prevalence of GDM in India varied from 3.8 to 21% in different parts of the country, depending on the geographical locations and diagnostic methods used. GDM has been found to be more prevalent in urban areas than in rural areas. Prevalence of GDM varies worldwide and among different racial and ethnic groups within a country. Overall, 90% of diabetes in pregnant women is gestational and about 10% pre gestational diabetes.

Screening Logarithm

<table>
<thead>
<tr>
<th>High risk for GDM</th>
<th>Screen for GDM immediately</th>
<th>Test 75g or 100r OGTT</th>
<th>Result – Positive Diagnosed for GDM</th>
<th>Negative screened for GDM @ 24-28wk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average risk for GDM</td>
<td>screened for GDM @ 24-28wk</td>
<td>Positive-75g or 100r OGTT</td>
<td>Diagnosed for GDM</td>
<td>Negative - Monitor pregnancy closely</td>
</tr>
<tr>
<td>Low risk for GDM</td>
<td>Screen</td>
<td>Positive-screened for GDM @ 24-28wk</td>
<td>Diagnosed for GDM</td>
<td>Negative - Monitor pregnancy closely &amp; 75g or 100r OGTT</td>
</tr>
</tbody>
</table>

Nidana

विहारजः- Divaswapna, atishayam, alashyam, atisnehana.

विठाव- Chinta, Shoka, bhaya.

रोगनिय- Aajerma, agnimandya, shotha visham jwara

अन्नमित्रया - Bijha bhaga ayvaya dushti, Abhigata.

Parva Rupa
हंसा अष्टाशिय समुन्न्त्वां भाग तुल्यं। मूचे तण्डुलं जलं प्रतिमं घुलिया।

Mutrm tandal (like rice washed water and white in color), Sweda (Sweating), Anga Gandhi – (bad body odor), Shithila (blistiness of body due to medovridhi), Shayasana Rati (liking for constantly lying on the bed, feeling sedentary), Ghana Angata (blistiness of the body due to increase anabolism), Sheeta Priyata (liking for cold things), Gala, Talu Shosha (dryness of the throat and palate), Madhurasaasya (sweet taste in the mouth), Kriya Pada Daha (burning sensation in hands and legs due to deficiency of vitamins).

Samprapti
Garbhini madhumeha
Samprapti ghataka
Dosha: shleshma pradhana Tridosha
Dashya: Rasa, rakta mansa, meda, majja, suka, kleda, lasika & ojas.
Srotas: moothravaha, medovaha.
Srotat dashri prakara: Sanga
Agni: Jatharangi mandya & Dhatwagnimandya
Adisthana: Basthi, Vyakasthana: Sarva sharira
Vyuhi swabhava: Achirakari (in garbhini)

Sadhyasadhyatha: krichra sadhya

Lakshanas

Effect of varjya ahara & vihara sewa on garbhini has been described by Acharya charaka & vagbhatta I.

Dietetics or Mode of Life
मधुरतनत्या प्रमेहहणं मूकमततथा घुलिया।

By following dietetics or mode of life like nitya madhura aahra and vihara like excessive sleep, the fetus or child will suffers from prameha, atisthula, mukam, Tandralu, agyani, murkha and alpaagni child.

Acharya kashyapa has mentioned clinical features indicating intrauterine death of fetus and abortion.

A pregnant woman who eats frequently in large quantity and becomes repeatedly unconscious have chances of abortion.

Maternal & Fetal Complications
Good medical care and obstetric care throughout pregnancy, labour, puerperium usually results in a favourable outcome. However complications can be seen in patients with uncontrolled diabetes.

Effects of Diabetes on Pregnancy
- Abortion, maternal Infection-UTI, candidiasis, high risk of pre-eclampsia, polyhydramnios
Effects of Diabetes on Pregnancy
- Birth trauma-shoulder dystocia, caesarean section – fetal macrosomia, CPD, recurrence of GDM, prolonged labour

Fetal Complications
- Birth trauma as: Macrosomia, shoulder dystocia, hyperglycaemia, hypocalcemia

Neonatal Complications
- Respiratory distress, hypoglycaemia, hypocalcaemia, hyperbilirubinemia

Screening and Diagnosis
Whom to Screen for GDM?

Low Risk Group
- Age <25 yrs, Low prevalence of GDM, Weight normal before pregnancy, No h/o abnormal glucose metabolism, No h/o poor obstetrical management.
- Average Risk Group
- Screen around 24–28 weeks of gestation, Marked obesity, Strong family h/o type 2 DM , Prior GDM or Glucosuria.

High Risk Group
Age >30, Obese, ethnic group, positive family history of diabetes, as soon as possible after conception, if not diagnosed diabetes should repeated at 24–28 weeks of gestation or at any time if a patient has symptoms or signs suggestive of hyperglycemia, having a previous birth of an overweight baby of >4kg or more, previous unexplained still birth, presence of polyhydramnios, recurrent vaginal candidiasis in present pregnancy, persistent glucosuria.

Ayurvedic Line of Management
Ayurveda helps in limiting the maternal and fetal complications. Herbs are helpful as a supportive treatment along with the modern medicine under supervision.

1.) Pre-conceptional care mentioned by Acharyas seems to be give a great contribution in getting the healthy progeny. Acharya have mentioned snehana, swedana, vamana, virechana & basti karma for purification of body. By proper purification and samskaras, unvitiated yoni, garbhhasaya, manas, and beeja are ensured leading to healthy pregnancy. The woman should follow the ritumati paricharya. Acharya vagbhatta have advised phala ghrita, mahakalyana Ghrita and acharya kasyapa have advised lasunaksheera paka for the women. The woman should have positive thoughts, Happiness and peaceful mind.

2.) Garbhini paricharya- Acharya Charka says that woman desirous of producing a child should give up non-congenial diet and mode of life.

Acharya Sushruta advised the woman from very first day of pregnancy should remain in high spirit, pious, wear clean white garments and worship. Her sleeping and sitting place should be covered with soft cushion not be very high. Acharya Vagbhata I have said the pregnant woman is fit for the use of brumhana therapy. Acharya Vagbhata II has advised use of jivinya gana dravas for internal use.

Acharya kasyapa says that the ahara seyan by the pregnant woman become satmya to the fetus. Thus the aahara should be taken considering desha, kala, and digestive capacity. She should use Hot water milk and meat. Milk provide nourishment and stability to the fetus.

Acharya Yogaratnakara has enlisted following articles beneficial for pregnant woman is sali, sastika dhanya, mudga, godhuma, lajjia sakuti, navneet, ghrita, fruit of amalaki, draksha.

Basti karma has been advised by Acharyas during 8 & 9 months of pregnancy.
Yoga & Prunayama like Siddhasana, Shavasana, Ujjayi pranayama, Bhramri pranayama, Anuloma-viloma are helpful.

Deepana pachana yogas are: Pippali ksheera paka, Dipyakadi dhooorna, Jeeraka kashaya, Yavagu, peya processed with deepanvya drugs.

Supportive line of treatment:
Garbha rakshaka kashaya, Garbha pala rasa, Khadiradi kashaya, Phala sarpi, Chandraprabha Vati, Vasant Kusumakar Rasa, Khaitaka khadiradi kashaya, Maha tiktaka kashaya , Chandanasaava. Sihanika chikitsa: Prakashalana with pachavalkala qwatha or triphala qwatha, Yoni pichu

Modern Line of Management
The components of GDM management include: Adequate monitoring of blood glucose, Medical Nutritional Therapy (MNT), Physical Activity, Pharmacological therapy

Medicinal Nutritional therapy is a cornerstone in management
The goals of such therapy are: To achieve normoglycaemia, to provide the necessary nutrients for the mother and fetus, to prevent starvation Ketosis, provide adequate weight gain, diet with 2000-2500 kcal/day for normal weight woman and restriction to 1200-1800 kcal/day for over-weight woman is recommended and the calories should be distributed into three meals and three snacks. A bed time snacks is instead to prevent ketosis in fasting.
Daily caloric intake & pregnancy weight gain in women with GDM with or without concomitant insulin therapy

<table>
<thead>
<tr>
<th>Current weight in relation to ideal body weight</th>
<th>Daily caloric intake (Kcal/kg)</th>
<th>Recommended pregnancy weight gain (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;80-90%</td>
<td>36-40</td>
<td>28-40</td>
</tr>
<tr>
<td>80-120%</td>
<td>30</td>
<td>25-35</td>
</tr>
<tr>
<td>120-150%</td>
<td>24</td>
<td>15-25</td>
</tr>
<tr>
<td>&gt;150%</td>
<td>12-18</td>
<td>15-25</td>
</tr>
</tbody>
</table>

Physical Activity
Planned physical activity for 30 min/day is recommended. Walking or arm exercise while seated in a chair for at least 10 min after each meal.

Pharmacology Therapy
Patients taking oral hypoglycaemics or insulin in the pre-pregnant state. GDM not controlled on MNT alone (glucose levels on repeated monitoring fasting >105 mg/dl and post-prandial >120 mg/dl). Patients taking insulin should monitor their glucose levels daily. Patients on dietary management alone may have their fasting plasma sugar and 2-hour postprandial levels checked in the clinic every 1 or 2 weeks. Blood sugar level should be around 90 mg/dl before meals & not to exceed 120 mg/dl, 2 hours after meals.

Obstetric Management of Gdm
Fetal Monitoring
This should aim at recognizing the complication of pregnancy associated with diabetes.

Baseline ultrasound for gestational age NT Scan: At 11-14 weeks. Maternal serum alpha-fetoprotein concentration is estimated at 16-20wks gestation in an attempt to detect neural tube defects in the fetus. At 18-22 weeks: Anomaly scan. At 24-26 weeks: fetal echo may be done to detect any cardiac anomaly in the fetus.

Last trimester scan: At 36-38 weeks. Antenatal checkup once in 2 weeks until 32 weeks and then weekly. Hospitalization should be advised whenever there is poor control of diabetes or if complications develop.

Induction of Labour
Young primi gravida without any obstetric abnormality. Multipara with a good obstetric history. Development of pre-eclampsia. 40 weeks gestation with no labour pain.

Route of Delivery
Vaginal delivery can be attempted if the following criteria are fulfilled: Longitudinal lie with vertex presentation Adequate intrapartum foetal monitoring. No cephalopelvic disproportion (CPD)

DISCUSSION
Timely action taken now in screening all pregnant women for glucose intolerance, achieving euglycemia in them and ensuring adequate nutrition may prevent in all probability of transmitting glucose intolerance from one generation to another.

Thus, GDM offers an important opportunity for the development, testing and implementation of clinical strategies for diabetes prevention.

Almost half of the women did not reach sufficient control with metformin alone and needed supplemental therapy with insulin; compared to those treated with insulin alone.

There are broad explanation regarding treatment of Madhumeha, but application of same medication in garbhini needs more research.

CONCLUSION
Gestational diabetes is a common problem in India. Risk stratification and screening is essential in all pregnant women. Strict glycemic targets are required for optimal maternal and fetal outcome. Patient education is essential to meet these targets. Long term follow up of the mother and baby is essential. According to Ayurveda efforts of having healthy baby commences with pre-conception care and management. But in India most of the females visit clinics after having pregnancy, so role of pre-conception care and management is very limited. Garbhini parichrya by monthly regimen described by various acharyas is highly effective for this purpose. If pregnant woman strictly follows Garbhini parichrya and ritumati charya before conception, diseases of garbhini and garbha can be avoided.

REFERENCE
1. Bhaisajya Ratnavali, Edited By Shri Rajeshwardutthashtri, Varanasi: Chaukhambha Samskrit Samsthan, c.8th, 506.