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Garbhopaghatakara bhava: A critical review

Vidya Ballal and Mamatha KV

Abstract

One of the great wonders of nature is the growth of a fetus within its mother's womb. Pregnancy being a happy occasion for the family and especially for the mother, can take a bad U-turn for certain unknown errors of nature and human lifestyle. Abortion is one such complication of pregnancy amongst others which can occur due to genetic factors, environmental factors and lifestyle disorders too. The concept of abortion as such is inferred in the literature under direct reference of garbhavyapads. Garbhopaghatakara bhavas are certain factors which when followed by a pregnant lady can harm /destroy the fetus. A pregnant lady is known as a douhridini as she has two hearts and that the foetal heart is in direct connection to the mother and expresses its desire through the mother. Douhrida apamana is in due course a cause for fetal abnormalities. Acharya kashyapa has in brief explained about jataharinis, relating to abortions/ pregnancy loss taking place in the different stages of pregnancy. Here, an attempt has been made to critically analyze garbhopagatahara bhavas to abortion.

Keywords: Garbhopghatakara bhavas, abortion, garbhasrava, garbhavyapad, douhrida, jataharini

Introduction

Relationships are a boon to man which is indispensable, inseparable and to some extent inescapable. Womanhood is instinctually programmed to nurture and sustain life to its full form. The fetus, in the intra-uterine life, is in constant relation with the mother for both physical - mental growth and nourishment. Since most relationships are mutual and deserve nurturing and wherein the warmth of a good relation plays a major role in providing cosiness and security in life, so is this between the mother and fetus.

Fetal development depends on genetic codes, maternal hormones, environmental factors and nutritional supplies. Certain minor unhealthy habits which may not produce any significant illness in the mother can still cause significant fetal consequences. Maternal nutrition and possibly even paternal nutrition before conception affect the health of the newborn. It is now recognized that 'fetal origin' has far more lifelong effects than originally thought. Nutrition is the major intra uterine environmental factor that alters expression of the fetal genome and may have lifelong consequences with maternal nutrition. This phenomenon termed "fetal programming" has led to the recent theory of "fetal origin of adult disease".

In this era where the life style disorders affecting the fertility of the woman are increasing in number, providing care to the pregnant woman to prevent complications like abortion, IUGR, premature delivery, and congenital deformities in foetus is of prime significance. The term *Garbhopaghatakara bhavas* deals with the aspects which are going to cause *upaghata* or *himsa / harm /destruction* to the growing garbha. Thus, Garbhopaghatakara bhavas means the factors harmful to pregnancy. These are practically imposed in conditions where the fetus is compromised like that as in an abortion, IUGR, IUD and PROM leading to premature delivery.

Abortion is the expulsion or extraction from its mother of an embryo or fetus weighing 500 gm or less and when it is not capable of independent survival. The causes of abortion are many ranging from genetic causes, endocrine and metabolic disorders, anatomic, infections, immunological, antifetal antibodies, thrombophilia's and others.

Psychologically the women is also effected by abortions to a great extent. Although a woman physically recovers from a spontaneous abortion quickly, in general, psychological recovery for parents may take a long time. A questionnaire (GHQ-12 General Health Questionnaire) study following women having aborted showed that half (55%) of them presented with significant psychological distress immediately, 25% at 3 months; 18% at 6 months, and 11% at 1 year after miscarriage.

The chromosomal abnormalities are found in more than half of embryos aborted in the first 12 weeks. An embryo with a genetic problem has a 95% probability of being aborted. Most chromosomal problems happen by chance, have nothing to do with the parents, and are unlikely to recur. Chromosomal problems due to a parent's genes are, however, a possibility. This is more likely to have been the cause in the case of a woman suffering repeated spontaneous abortions, or if one of the parents has a child or other relatives with birth defects. Genetic problems are more likely to occur with older parents; this may account for the higher rates observed in older women. Literature gives evidences of sperm chromosomal anomaly causing miscarriage as *sukrasya doshath* or *vata vikara* in *sukra* leading to *garbha nasha*. Literature emphasis on the role of *sukra*, *asrik*, *atma*, *aashaya kaalsampath*, in the involvement of proper growth and development of the fetus.

Physical and psychological disorders of mother and disorders of fetus are responsible for producing fetal complication including abortion. Acharya Susrutha highlights intercourse on the 3rd day of menstruation and if thus conceived, fetus can lead to abortions. Emphasis on marriageable age and age of conception according to Acharya's enlighten the age of maturity of the sperm and ovum and its maturity helping in a healthy progeny. Coitus with young girls and elderly ladies are contraindicated.

According to Acharya Susrutha excess *maithuna* in a *garbhini* can lead to *garbha peeda* and leading to abortion. Other Acharya have entitled to the concept of excess *vyavaya* and *vyayama* as *garbhogpathkara bhava*. Sudden shock, excessive coitus, excessive exercise produce psychological and physical strain and trauma which may in turn precipitate abortion. In conditions like low-lying placenta or in the first trimester with the instability of the *garbha*, excessive coitus or exercise can lead to abortion. Sudden shock can result in hypo perfusion to brain and other vital parts thereby interfering with blood flow to the uterus and fetus.

All pregnant patients with traumatic injury should be assessed formally in a medical setting because placental abruption can have dire fetal consequences with patient having few or no symptoms. Sometimes placental abruption can lead to maternal shock and maternal death. Oxygen supply and I.V fluid infusion, correcting hypovolemia, hypoxia and fetal distress maximize uterine perfusion and oxygenation for the fetus. After 20 wks. of gestation, the uterus may compress the great vessels when a pregnant woman is in supine position. Compression can cause decrease in maternal systolic blood pressure and a consequent decrease in uterine blood flow. Highlighting supine position in the *garbhini* is also contradicted by Acharya's

In the *masaanumasika paricharya* of the *garbhini*, it is advised that the *garbhini* should intake the *ahara* which is having *laghu*, *sheeta veerya*, *madhura rasa* and *madhura vipaka* which will help in full filling the need of the both mother and the growing *garbha*. This explains the *garbhaopghatakara bhavas* like *guru*, *ushna* and *theekshna aharas*, in turn hampering the *Agni* of the mother causing metabolic and digestive changes resulting in abnormal *poshana* to the fetus leading to *garbhavyapaths* where the normal growth pattern of the fetus is affected.

Bhela opines the 20 *yonis vyapads* to be responsible for *garbhasrava*. Diseases like *apraja*, *vamini* and *putragni* hint towards the different types of abortion.

Acharya Susrutha while enumerating the *nidana* of

moodagarbha and *garbhasrava* has enlisted *krimi*, *vata* and *aaghata*. The same can be analyzed in the modern understanding of infections like *torch* leading to repeated abortion.

Haritha explains vitiated *doshas* especially *vata dosha* leading to abortion. Intake of *theekshna*, *kshara*, *ushna*, *katu*, and *thikta* and *rooksha dravyas* is another cause, effecting dryness and probably *oligohydramnios* in the mother leading to IUD if not corrected. In the context of *mritagarbha*, *nirahara* or fasting is one among the cause of death of the *garbha*.

In *Bhavaprakasha garbhanasha* is enumerated as one of the eighty disorders of *vata* or that *vata* is responsible for abortion.

In *Caraka cikitsa stana* verse 28/34 explains that the aggravated *vata*, situated in the *sukra* is also responsible for abortion.

Classics have given importance to the concept of *douhrida*. It is explained as the time the *indriyas* of the fetus become conspicuous, the *mana* gets associated with *vedana* and the fetus is able to distinguish *sukha* and *dukha*. The *spandana* explained is possibly an effort of the fetus to get rid of the *dukha* for the *sukhaprapti*. *Vagbhata 1* prediction of *douhrida kala* is more apt wherein from 3 *paksha* or 45 days or 6 weeks onwards till the beginning of 5th month is considered as *douhrida kala*. During this *kala* the fetus expresses its desire through the mother and since the pregnant lady has two hearts at this juncture, she is known as a *douhridini*. Non fulfillment of *douhrida* or such desires, otherwise known as *douhrida apamana* leads to *garbhavikriti* or *garbhavinasha*. But sometimes these desires can be non-congenial or *garbhahimsakara bhavas* that are harmful to the fetus, then the same can be substantiated with addition of *hita ahara* or *vihara* which in the long run will counteract the harmful effects. *Susrutha Acharya* reference to *atitharpana* and *ati-karshana* as included amongst the causes can be explained on the basis of complications that arise in a maternal malnutrition or satiated condition.

Maternal under-nutrition during gestation reduces placental and fetal growth. Available evidence suggests that fetal growth is most vulnerable to maternal dietary deficiencies of nutrients during the peri-implantation period and the period of placental development. Under nutrition in pregnant women may result from low intake of dietary nutrients owing to either a limited supply of food or serve nausea and vomiting known as *hyperemesis gravidarum*. Pregnant women may also be at increased risk of under nutrition because of early or closely placed pregnancies. Since pregnant teenage mothers are themselves growing, they compete with their own fetuses for nutrients, whereas short inter-pregnancy intervals result in maternal nutritional depletion at the outset of pregnancy. Further, placental insufficiency results in reduced transfer of nutrients from mother to fetus, thereby leading to fetal under nutrition and IUGR. Finally, due to completion for nutrients, multiple fetuses resulting from assisted reproductive technologies are often at risk of under nutrition and therefore fetal growth restriction.

Over nutrition can result from increased intake of energy and or protein diet. Extensive studies have shown that maternal over nutrition retards placental and fetal growth, and increases fetal and neonatal mortality. Many overweight and obese women unknowingly enter pregnancy and continue over eating during gestation. These women usually gain more weight during the first pregnancy and accumulate more fat during subsequent pregnancies. Maternal obesity or over

nutrition before or during pregnancy may result in fetal growth restriction and increased risk of neonatal mortality and morbidity due to pregnancy complications like PET, gestational diabetics, etc. Thus various nutritional and pathological conditions can result in IUGR and IUD.

Most of the nidana of garbhasrava, garbhapata, moodhagarbha and mritagarbha have a lot of similarities and direct towards factors which are emphasizing on garbhoghatahara bhavas having a direct effect on the fetus either in the complication of an abortion, IUGR, IUD or preterm, difficult labor or still birth.

In the context of jataharinis, the couple who is pious, righteous, honest and free from pride and diseases, progeny progresses. In an alive mother there are 10-11 jataharinis afflicting, out of which that which destroy the garbha are curable and that which results in menstrual abnormalities are incurable.

Most clinically apparent spontaneous abortions occur during the first trimester.

Luteal phase defect results in early miscarriage as implantation and placentation are not supported adequately. A deficient progesterone secretion from corpus luteum or poor endometrial response to progesterone is the cause. Overt hypothyroidism and hyperthyroidisms are associated with pregnancy loss. Thyroid auto antibodies are often increased to some level in pregnancy. Diabetes mellitus when poorly controlled can also cause increased miscarriage. Because diabetes may develop during pregnancy (gestational diabetes), an important part of prenatal care is to monitor for signs of the disease. Polycystic ovary syndrome is a risk factor, with 30–50% of pregnancies in women with PCOS being aborted during the first trimester.

Second trimester abortions

Up to 15% of pregnancy losses in the second trimester may be due to cervical incompetence, congenital uterine malformation, growths in the uterus (fibroids), or cervical problems. These conditions also may contribute to premature birth.

One study found that 19% of second trimester losses were caused by problems with the umbilical cord. Problems with the placenta also may account for a significant number of later-term miscarriages. Intra-uterine adhesions interfere with implantation, placentation and fetal growth. Fibroids of the sub mucous variety might be responsible not only for infertility but also for abortion. Infections are the accepted cause of late as well as early abortions. Transplacental fetal infections occur with most microorganisms and the fetal loss can be due to any of the infections.

Risk factors

Spiral artery and placental intervillous thrombosis, placental infarction and fetal hypoxia are the pathologies causing abortion among auto-immune and alloimmune factors related to miscarriages. Maternal medical illness like cyanotic heart diseases, haemoglobinopathies are also associated with early abortions. Couple with group 'A' husband and group 'O' wife have got higher incidence of abortion. Inherited thrombophilia causes early and late miscarriages due to intravascular coagulation. Pregnancies involving more than one fetus are considered at increased risk.

High blood pressure during pregnancy, known as preeclampsia, is sometimes caused by an inappropriate immune reaction (paternal tolerance) to the developing fetus, and is associated with the risk of spontaneous abortion. Similarly, women with

a history of recurrent spontaneous abortions are at risk of developing preeclampsia. Severe cases of hypothyroidism increase the risk of miscarriage.

Environmental causes like cigarette smoking increases the risk of formation of carboxy haemoglobin and decreased oxygen transfer to the fetus leading to fetal complication. Exposure to X-irradiation and anti-neoplastic drugs known to cause abortion. Alcohol consumption should be avoided or minimized during pregnancy. Certain illnesses (such as rubella and chlamydia) increase the risk.

Cocaine use increases the rates. Physical trauma, exposure to environmental toxins, and use of an IUD during the time of conception have also been linked to increased risk. Antidepressants especially paroxetine and venlafaxine can lead to spontaneous abortion. Caffeine consumption also has been correlated to spontaneous abortion rates, at least at higher levels of intake.

In spite of the numerous factors mentioned, sometimes or too often more than one factor is responsible for miscarriage. Risk of miscarriages increases with increased maternal age and 22% of all pregnancies detected by urinary hcG are lost before the clinical diagnosis.

Prevention

The concept of garbhini paricharya with the inclusion of madhura sheeta drayas and that which is characteristically antagonistic to garbhoghatahara bhavas is a sure remedy in preventing all complications of pregnancy as is wisely advised in literature.

Garbhashthapaka dravyas (Substances beneficial for maintenance of pregnancy)

Garbha sthapaka dravyas counter act the effect of the garbhoghatahara bhavas and help in the proper maintenance of the garbha. They can also be used in the treatment and prevention of abortion. These are to be used as a routine as they are beneficial for the maintenance of proper health, growth and development of both the mother and fetus. Some of the garbhashthapaka aushadhis are Aindri (*Bacopa monnieri*), braahmi (*Centella asiatica*), Satavirya (*Asparagus racemosus*), Sahashravirya (*Cynodon dactylon*), Amogha (*Stereospermum suaveolens*), Avyatha (*Tinospora cardifolia*), Shiva (*Terminalia chebula*), Arista (*Picrorhiza kurroa*), Vatyapushpi (*Sida cardifolia*), Vishwasenkanta (*Callicarpa macrophylla*) etc. These should be taken orally as preparations in milk and ghee. A bath with cold decoction of these drugs should be given during pushyanakshatra. These should be kept in close contact with the mother and can be used as amulets around the right arm and on the head. Drugs of the jeevaneeya gana can also be used in a similar way. Kasyapa has advocated that amulet of trivrit (*Operculina Tharpeethum*) should be also tied in the waist of pregnant woman.

Currently there is no known way to prevent an impending abortion, however, fertility experts believe that identifying the cause of the miscarriage may help prevent it from happening again in a future pregnancy. In one study, researchers found that use of the supplement dehydroepiandrosterone before and during pregnancy reduced the risk of pregnancy losses. Practicing exercises, movements that focus on strengthening the muscles around the pelvic organs and therefore improving organ functions-have shown successes in helping women carry pregnancies to term.

Discussion

After conception, there is a great role or influence of vata and Agni in the growth and development of the fetus. Looking into all the factors effecting fetal growth, nourishment, development, sustenance and its expulsion into the outer world, the influences of vata predominantly can be understood. All Acharya's enlighten on the role of vata in abortion too. When the fetus grows inside the womb, the proper growth and development is due to vata and Agni. Proper nourishment in the form of congenial diet is mandatory for proper digestion and the nourished particle reaching the target i.e., the fetus for its normal growth. The role of laghu, sheeta, madhura ahara which is in Drava roopa in the first trimester helps to compact the outcome of nausea and vomiting during that period. This also prevents dehydration in the women causing complications to the fetus and ultimately abortions. The use of meat in excess is contraindicated while some Acharyas infer the importance of mamsa rasa in the last trimester can prove the contradiction of excess anooopa mamsa and that the fetus grows drastically in the last trimester that is after 36 weeks. This also prepares the women towards a non-laborious delivery.

Ojus is the first essence in the formation of garbha. Madya and madhakara ahara are having antagonistic property when compared to ojus. Thus, their use in pregnancy can cause genetic abnormality, IUGR.

Conclusion

In spite of recent advances in the field of reproductive and child health care, the incidences of morbidity and mortality rates of women continue to remain unsatisfactory. There is a still high incidence of MMR and infant mortality rate. Hence, it is important to analyse the lifestyle of the pregnant women and take appropriate corrective measures. Garbhini paricharya prescribes ahara (diet), vihara (lifestyle) and vichara (thought process) to be followed during pregnancy as these have a direct effect on the mother and the child. It is also a preventive measure counteracting garbhopaghatakarah bhavas and their bad effects. Of these, wholesome diet is given great importance as it aids foetal growth, maternal health and lactation after childbirth. With the aim of qualitative progeny, or a shreyasi praja, improving the quality of beeja, status of the endometrial bed, elevate the pure consciousness, cure certain pathological entities for a disease free and healthy infant endowed with excellence is this contributing characters. The nidanas mentioned in garbhavyapaths, mritagarbha, jataharinis simile to garbhopaghatakarah bhavas which can be prevented by resorting to garbhini paricharya. In kashyapa Samhita it is told that garbhini should be taken care just like tailapoorna patra. Even a slightest agitation could spill the taila from the taila poorna patra in the same way complete attention should be given to garbhini in order to prevent the upaghata in the growing garbha.

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