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CONCEPTUAL STUDY OF GARBHINI PRAMEHA WITH SPECIAL REFERENCE TO CHANGE IN LIFESTYLE

Dr. Mrudula Kulkarni

MS (OBGY), Associate Professor, Dept. Of Prasutitantra and streerog, BVDUCollege Ayurveda, Pune, Maharashtra, India. mrudula.kulkarni@bharatividyapeeth.edu

Dr. Vitthal Chamwad

2nd Year , DGO Scholar, Dept. Of Prasutitantra and streerog, BVDUCollege Ayurveda, Pune, Maharashtra, India. drvitthal949@gmail.com.

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Abstract: According to Acharya Charaka, Garbha is the Samyoga of Shukra, Shonita, and Jeeva (Atma) within the Kukshi. According to Acharya Sushrut, Garbha is a combined state of Shukra and Shonita in the Garbhashaya, intermixed with Prakritis (Mula-Prakriti and its eight categories) and Vikaras (her sixteen modifications) and ridden in by the Atma. When shuddha Shukra and shuddha Shonita unite in a pure womb and a pure genital tract that is lying down. This will undoubtedly result in the formation of Garbha. This is similar to turning milk into curd after discarding its previous form with the addition of a few drops of curds. Thus the state of women bearing of garbha in garbhashaya (uterus) is termed as Sagarbhavastha. Minor ailments that occurs during sagarbhavastha is known as garbhopdrava, mentioned by Acharya Harita

शोष हल्लास च्छर्दिश्च शोफ ज्वरस्तथाडरूचि। अतीसारो विवर्णत्वं आदौ गर्भोपद्रवः स्मृतः ॥^[1]

Considering above reference and other reference in samhitas, Prameha is not mentioned directly as Garbhopdrava. But now a days percentage of the ANC cases with prameha is found to be increased. According to modern science it is considered as gestational diabetes mellitus (GDM). Gestational diabetes mellitus is the term used to describe glucose intolerance that develops during pregnancy. Though the clinical presentation of GDM is well understood, the underlying mechanism remains unknown. GDM in pregnancy is currently one of the most serious pregnancy complications. Gestational diabetes mellitus in the mother can have a negative impact on intrauterine development. If left untreated spontaneous abortions and major congenital anomalies, excessive foetal growth, neonatal hypoglycaemia, and stillbirth may be induced. Here co-relation of predisposing factors of gestational diabetes mellitus & Hetus or cases of Prameha mentioned by ancient granthkaras are considered for current study.

Keywords: Prameha, garbhavidhhi, garbhini prameha, gestational diabetes mellitus, sagarbhavastha, granthakara.

Introduction: The woman is delicate and soft by nature. Her conditions deteriorate during pregnancy. Acharya Charaka compared this situation to a pot full of oil; the slightest movement causes the oil to spill (premature delivery). Ahara and Vihara should be taken by women who want a healthy and beautiful child (Praja Sampat),

शुक्रक्षोणित जीवसंयोगे तु खलु कुक्षिगते. गर्भसंज्ञा भवति ॥ च.शा., ४/५ [2]

शुक्रशोणित गर्भाशयस्थमात्मप्रकृति विकार समुच्छितं गर्भ इत्युच्यते ॥ सु.शा. ५/३.[3]

According to Acharya Charaka, Garbha is the Samyoga of Shukra, Shonita, and Jeeva (Atma) within the Kukshi. According to Acharya Sushrut, Garbha is a combined state of Shukra and Shonita in the Garbhashaya, intermixed with Prakritis (Mula-Prakriti and its eight categories) and Vikaras (her sixteen modifications) and ridden in by the Atma. When shuddha Shukra and shuddha Shonita unite in a pure womb and a pure genital tract that is lying down. This will undoubtedly result in the formation of Garbha. This is similar to turning milk into curd after discarding its previous form with the addition of a few drops of curds. Thus the state of women bearing of garbha in garbhashaya (uterus) is termed as Sagarbhavastha.

Different rules & regimens are described by various granthakaras to garbhini for Sukhprasav. The main aim of garbhini paricharya is

आनुपघाताय, परिपूर्णत्वाय सुखप्रसावयच । वा. शा. १/२ इंदुटिका.[4]

There are different minor ailment's known as Garbhopdravas, these ailment's are due to change in physiology during garbhavastha. They are ...

शोष हल्लास च्छर्दिश्च शोफ ज्वरस्तथाऽरूचि । अतीसारो विवर्णत्वं आदौ गर्भोपद्रवः स्मृतः ॥^[1]

Here prameha is not mentioned directly as a garbhopdrava. But prameha vyadhi is described in detail by various granthkaras. The fact is now a days percentage of Prameha is increased during sagarbhavastha, so here prameha hetus, Vyadhi, is considered for study. As mentioned in WHO, percentage of GDM is rising day by day. They say that, this is because of change in life style of women. In this study, correlation of predisposing factors of GDM with granthokt prameha hetus are considered. A plan of questionnaire which explains correct life style will be prepared and survey will be done.

AYURVEDIC REVIEW OF LITERATURE.

Definition of Prameha The word Prameha consists of two words i.e. Pra (upsarga-prefix) and ,, Meha'. Meha is derived from the root ,, Mih Secane' (Urine) meaning watering with reference to disease of human body. Excessive quantity and frequency are indicated by the prefix Pra. Acharya Vagbhata describes Prameha as frequent and plentiful urine with turbidity i.e. Prabhutavila Mutrata.

In Madhava Nidana, it has been mentioned that:

“प्रकर्षेण प्रभूतं प्रचुरं वारंवारं वा मेहति मूत्रत्यागं करोति यस्मिन् रोगे स प्रमेहः” [5]

The meaning of which is excess of urination with increased frequency and in the state of turbidity. The Acharya Sushruta and Acharya Vagbhata were of the same opinion that the urine of this disease characterized by mainly two abnormalities i.e. 1.Prabhuta Mutrata (Excessive urination) - due to metabolic and hormonal changes 2.Avila Mutrata (Turbidity of urine) - due to abnormalities in the urinary tract.

Hereafter Nidan panchak of Prameha will be clarified as per various Samhita. The separate account of Garbhini Prameha is not available so the disease “Prameha” considered by concluding the remarks of nidan panchak during Garbhini.

HETU

According to Acharya Charak –

a)Aharaja evam Viharaja karana- Etiological factors of prameha are as follows- sedentary lifestyle, excessive sleep, curd, meat soup of domestic, aquatic and marshy animals, milk products, freshly harvested food articles, fresh wine jaggery preparations and all other kapha promoting substance, laziness, intake of food which are cold, unctuous, sweet, fatty, and liquid.

b)Santarpanottha karan –All etiological factors mentioned for the manifestation of santarpanottha vikara are also responsible for the development prameha.

According to Dalhana - Aadibala Pravrutta-Prameha manifest due to morbidity of shukra and shonita.

According to Ashtang hriday- Foods, drinks and activities which aggravates Meda, Mutra, and kapha are main etiological factors for the genesis of Prameha^[6]

According to Sushrut, hetus of Premeha are- Diwaswap, Avyayam, Alasya, Sheeta snigdha Madhur medya-annapana sevan^[7].

It manifests due to two main etiological factors i.e. sahaja (Hereditary/ Congenital) and Apathya nimmittaja (due to incompatible dietic and activities) It manifests due to defective sperm and ovum of the father and mother respectively^[8] .

AHARAJA NIDAN OF GARBHINI PRAMEHA -

Adhyasana, Guru, Sheet, Madhura Ahara Atisevana: Pregnant women taking large amount of food at one time instead of small meals at regular interval, high caloric diet, excessive sweets and carbohydrate rich beverages.

- Amla Rasa Ahara Atisevana, Lavana Guna Ahara Atisevana: Consumption of excessive sour and salty diet.
- Navannapana, Ikshu, Guda, Ksheera Dadhi Atisevan (increases kapha dosha).
- Anoop, Udaka & Gramya Mamsa Atisevana
- Meda Vardhaka Ahara Atisevana (consumption of fat rich diet) Hayanaka, Vilepi, Tila Atisevana etc...
- Viharaja Nidan of garbhini Prameha (related to lifestyle):
- Diva Swapna (excessive sleeping more than 2 hours in daytime and 8 hours in night). Ashya Atisuka, Alashya, Achinta (avoiding her usual activities and mild exercise,) Prakriti.^[9]

POORVARUPA PRAMEHA:

According to **Acharya Charak-** Matting of hairs , Sweetness in oral cavity, Numbness and burning sensation in hands and feet, Dryness in mouth, palate and throat, Thirst, Lassitude, Excess accumulation of waste over body especially in palate, throat, tongue and teeth, Adherence of excreta in body orifices, Burning sensation and numbness in body, Accumulation of bees and ants over the body, Excess sleep and drowsiness^[10].

According to **Acharya Sushrut-** Hastapadataladaha, Snigdha pichhila guru gatrata, Madhurshukla mutrata, Tandra, Sada, Pipasa, Shwas durgandhata, Talu gala jivha dant malotpatti, Jatilibhav keshana, Nakha vrudhi^[11].

POORAVRUPA OF GARBHINI PRAMEHA:

Sweda (Sweating), Anga Gandha – (bad body odour). Shithilangata (flabbiness of body due to medovridhi). Shayyasana Rati (liking for constantly lying on the bed, feeling sedentary). Hrut,

Netra, Jihva, Shravana Upadeha (a feeling as if these regions is covered with some paste / coating). Ghana Angata (bulkiness of the body due to increase anabolism). Kesha, kha, nakha Ati Vriddhi (excessive growth of hair and nails), Sheeta Priyata (liking for cold things), Gala, Talu Shosha (dryness of the throat and palate). Madhuraaasya (sweet taste in the mouth), Kara Pada Daha (burning sensation in hands and legs due to deficiency of vitamins). Mutre Pipilika (swarming of ants on the urine, an indication of the infection may manifest as vaginitis)^[12].

RUPA:

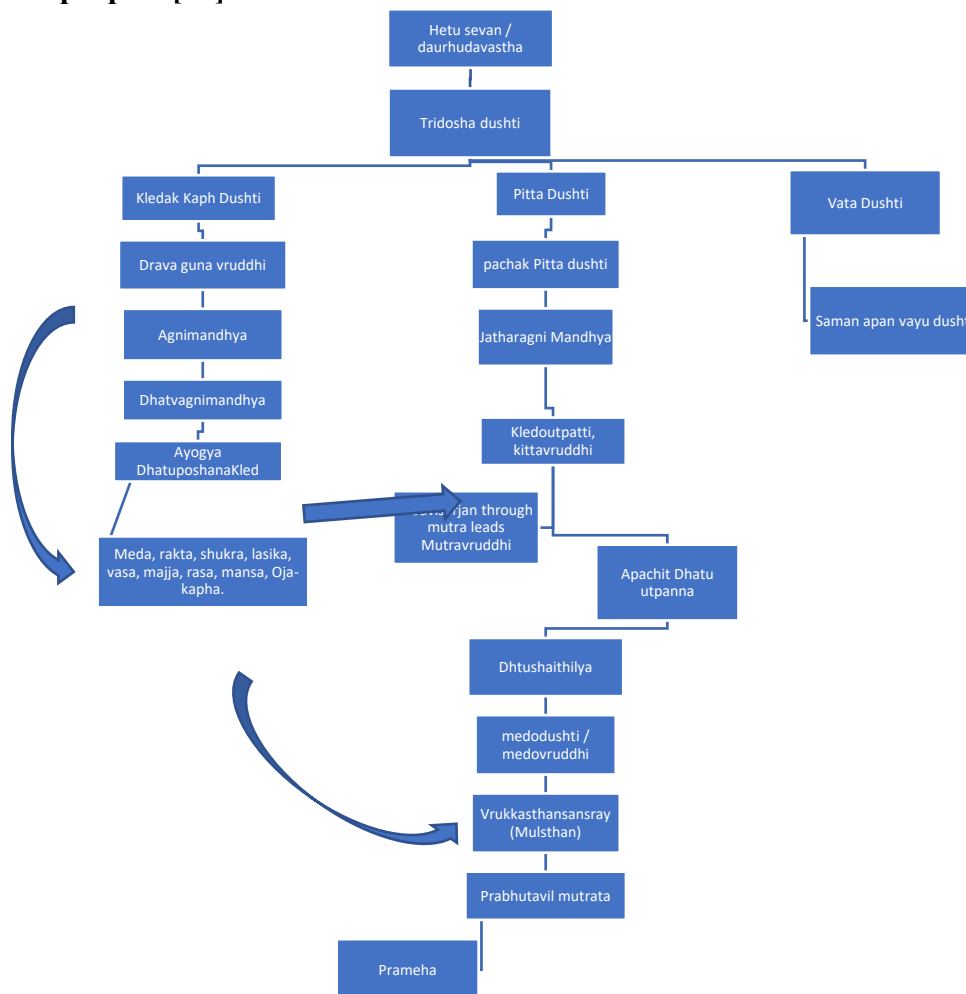
According to Sushrut- Prabhuta mutrata & avil Mutrata ^[13]

Madhav-nidan –Mutrata, Avilata mutrata^[14].

PRAMEHA SAMPRAPTI –

Vitiated kapha Pradhan tridosha circulated in the body, then body becomes relaxed (sharishithilata) due to disharmony of meda, mamsadi dushya due to increased vitiated kapha. As the properties of meda and kapha are almost same, vitiated kapha mixes with old, loosed meda and vitiates it. Vitiated kapha meda, further vitiates to kleda in excess amount. Thus vitiated kapha, kleda converted into mutra. Thus kleda, mansa, rasa, meda, which causes vikruti in mutravaha srotas, thus results in increase in formation of mutra pravrutti, results in prameha vyadhi.

Prameha Samprapti : [15]



Flow Chart No. 1 : Prameha Samprapti.^[15]

Garbhini Hetusevan :

Daurhadavastha : ahara, vihara mithyayog, bruhan, balya.

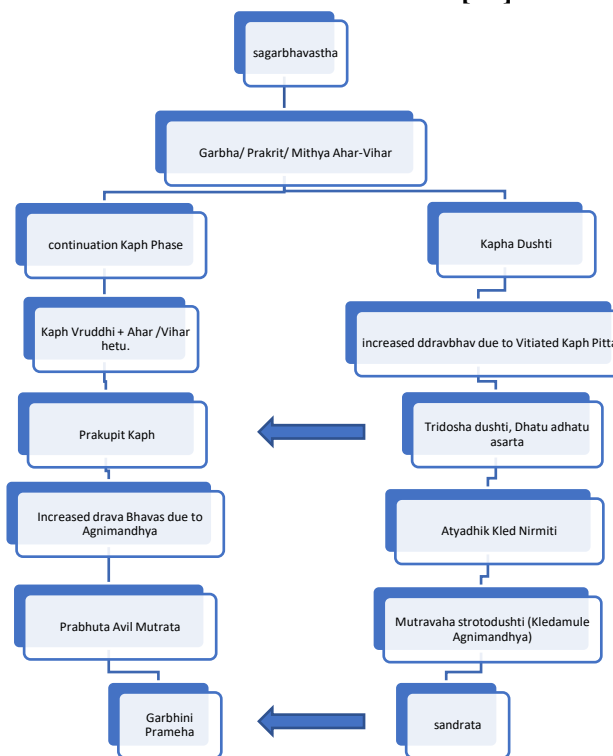
Sagarbhawastha : lack of exercise, madhur rasatmak ahara

Effect of varjya ahara & vihara sewana by garbhini has been described by Acharya charaka & vagbhata^[13].

In Garbhavastha: Garbha ativriddhi, Garbhodaka ativriddhi, Mutra ati pravratiti, Yoni kandu, Yoni srava.

In Prasavaavastha: Mudhagarbha, Purvakalik prasava, Kalatit prasava, Mrutgarbha ^[13]

ETIOPATHOGENESIS OF GARBHINI PRAMEHA : [16]



Flow chart No. 2 Garbhini Prameha Samprapti.^[16]

Garbhini after doing Mithya Ahara Vihara, vitiates prakrit kaph Pradhan tridosha dushti, which will impact on sharir dhatu , results in Dhatu- Adhatu asarata, ultimately results in atyadhik kledh Nirmiti, thus agnimandhya occurs due to excessive kledh. Excessive kledh will goes into Vrikka and basti, and vitiates Mutravaha strotas dushti, which will leads to excessive urine formation,

MODERN VIEW-

GESTATIONAL DIABETES MELLITUS

Gestational diabetes mellitus is defined as carbohydrate intolerance of variable severity with onset or first recognition during the present pregnancy.

The potential candidates for GDM are-

- Positive family history of diabetes (parents & sibling). Family history should include uncles, aunts and grandparents.
- Having a previous birth of an overweight baby of 4kg or more

- Previous stillbirth with pancreatic islet hyperplasia revealed on autopsy Unexplained perinatal loss
- Presence of polyhydramnios or recurrent vaginal candidiasis in present pregnancy
- Persistent glycosuria
- Age over 30 years
- Obesity
- Ethnic group

Screening : Screening strategy for detection of GDM are-

- Low risk-Absence of any risk factors-Blood glucose testing is not routinely required
- Average risk-Some risk factors perform screening test
- High risk-Blood glucose test as soon as feasible.

The method employed is by using 50gm oral glucose challenge test without regard to time of day or last meal, between 24 and 28 weeks of pregnancy^[118].

Diabetes in pregnancy study group in India (DIPSI) DIPSI has recommended single step procedure for diagnosing GDM In community. DIPSI diagnostic criteria of 2hr post prandial level of ≥ 140 mg/dl which is similar to WHO criteria. This was developed due to practical difficulty in performing glucose tolerance in fasting state, challenge of women revisiting the antenatal clinic and that too in fasting state^[19].

Symptoms – Polyuria, nocturia, polyphagia, polydipsia, excess sweating^[20]

Physiological Effects of Pregnancy on glucose metabolism-

Pregnancy is a diabetogenic state resulting in development of insulin resistance. As a result insulin requirements decrease during the first trimester and increase progressively from the second trimester until the last month of gestation. Some of the physiological changes taking place during pregnancy- Human placental lactogen, which has anti-insulin and lipolytic effects, is produced late in pregnancy. As a result, the glucose levels in maternal plasma are increased. Steroid hormones (especially corticosteroids, estriol and progesterone), which are produced late in pregnancy show an anti-insulin effect. Some insulin may be destroyed by the placenta and kidneys, thus the diabetogenic effects of pregnancy are increased in presence of maternal obesity and history of gestational diabetes in previous pregnancy^[21].

Pathogenesis of Gestational Diabetes Mellitus

Diabetes is a chronic disorder of carbohydrate, fat and protein metabolism characterized by increased fasting and post prandial blood sugar levels. Pregnancy is a condition characterised by progressive insulin resistance that begins near mid pregnancy and progressive through the third trimester. In late pregnancy, insulin sensitivity is fallen by $\sim 50\%$. Two main contributors to insulin resistance include increased maternal adiposity and insulin desensitising effects of hormones produced by the placenta. The placenta produces human chorionic somatomammotrophs (HCS, formerly called human placental lactogen), bound and frees cortisol, oestrogen, and progesterone. HCS stimulates pancreatic secretion of insulin in the fetus and inhibits peripheral uptake of glucose in the mother. As the pregnancy progresses and the size

of the placenta increases, so does the production of the hormones, leading to a more insulin-resistant state. In nondiabetic pregnant women, the first and second phase insulin responses compensate for this reduction in insulin sensitivity, and this is associated with beta cell hypertrophy and hyperplasia. However, women have a deficit in this additional insulin secretory capacity develop GDM. Beta-cell dysfunction in women diagnosed with GDM may fall into one of three major categories: (1)Autoimmune, (2) Monogenic, or occurring on a background of insulin resistance (as is most common) Glycosuria in pregnancy.

It is an early indicator of gestational diabetes. During pregnancy renal threshold is diminished due to combined effect of increases GFR and impaired tubular reabsorption of glucose, which is most common in mid pregnancy. Repeat and random urine sample taken on one or more occasion throughout pregnancy reveal glycosuria in 5 to 50% cases. Glycosuria on one occasion before 20 weeks is an indicator for glucose tolerance test^[22].

COMPLICATIONS

Fetal Complications	Maternal Complications
<ul style="list-style-type: none"> • Type 1 diabetes, Cardiovascular malformations • Unexplained still births • Macrosomia • Altered fetal growth • Neonatal death rates, & immaturity & neonatal morbidity. • Respiratory distress syndrome • Hypoglycemia • Hypocalcemia • Hyperbilirubinemia and polycythaemia • Polycythaemia is thought to be a fetal response to relative hypoxia. • Cardiomyopathy • Long-term cognitive development • Intrauterine metabolic conditions have long been linked to neurodevelopment in offspring ^[23] 	<ul style="list-style-type: none"> • Infections • Hydramnios • Preterm delivery • Severe hypoglycemia • THE SOMOGYI EFFECT is rebound hyperglycaemia after hypoglycaemia secondary to counter regulatory hormone release. • Diabetic ketoacidosis • Preeclampsia • Chronic complications Diabetic nephropathy • Diabetic retinopathy- • Diabetic neuropathy^[24]

Considering all above theoretical parts, now a days there are different factors that causes to increase the percentage of GDM. Therefore, lifestyle has an influence on physical and mental health of pregnant women life. Variables lifestyle that affects on health will be as following:

- **Consanguinity** leading to the genetic disorders.

- **Diet and Body Mass Index (BMI):** Unhealthy lifestyle can be measured by BMI, which causes cardiovascular problems in later life.
- **Lack of Exercise leads to multiple problems .**
- **Sleep:** lack of sleep impact on her social, psychological, economical and healthy consequences. Lifestyle may effect on sleep on pregnant women mental and physical health.
- **Substance abuse**
- **Medication abuse:** unexplained complications on pregnant lady and fetus.
- **Application of modern technologies:** misuse of technology will impact mental physical & mental health on pregnant women.
- **Recreation:** disorganized planning and unhealthy leisure, people endanger their health, ex. Using mobile, watching TV etc.
- **Long term stress-** caring, over conscious to family members, workload leads to serious complications on mother & fetus.

Here the plan of study is considering all above points . a questionnaire will be prepared and will be given to GDM diagnosed patients or having previous h/o GDM in previous pregnancy or potential of GDM. Then comparative study will be done and discussion & conclusion will be drawn depending upon the data collected .

Materials & Methods :

A search for GDM management was conducted. The keywords “Pregnancy”, “diabetes”, “Hyperglycemia “,” Insulin resistance”, “Garbhini “ , “gestational diabetes Mellitus “, were used in the search strategy. Google scholar, pubmed, ayurmed, American diabetes association,” ayurveda granthas “, additional manual research were used to identify the relevant sources. Textbooks, educational and development, journals, government papers, prints and online referances. Resources were just a few for the secondary sources are used to learn about the composition, use and effects of garbhini prameha with a focus on life style.

DISCUSSION

Acharya Charaka has cited that there may not be the Nomenclature of all the disease in text however such diseases can be managed based on Dosha concern and it can be exposed by Nidana Panchak i.e Nidana, Poorvarupa, Rupa, Upashaya, Samprapti. These are the basic tools for the diagnosis. Prameha is the disease caused by the over nutrition. Over nutrition can be resulting of both by diet as well as by other life style activities like sitting life style. Over nutrition leads to increase in the quantities of Kapha in the body. Sedentary lifestyle and other etiological factors mentioned aggravates Kapha which give rise to Prameha, but to initiate a Vyadhi in the body there must be involvement of Vata also, because it is the only force responsible for physio-biochemical activities in the body. In Prameha there is in impaired function of the Agni (Ahara Parimanakarabhava) leading to Tridosha Prakopa. The impaired Agni, both at the level of Jatharagni (GI level) and at Dhatvagni level (tissue level) is disturbed leading to the increase of Amadosha in terms of hyperglycemia, hypercholesterolemia,

hypertriglyceridemia, high levels of LDL and other parameters of impaired lipid profile. Increase in these parameters are reflected in the body through increased weight, waist to hip ratio (WHR), early fatigue, as symptoms of obesity and Prabhuta Mutrata (increased micturition), Avila Mutrata (turbid urine) and other symptoms of Prameha. Prameha can be prevented if intervention in the form of Pathya Ahara and Vihara is applied in early stages, either pre diabetes or healthy state. Pathya Ahara and Vihara in daily routine, maintaining physical wellbeing, mental coolness and holiness are equally important. Expected outcome of this study is making some changes in current life style will help in avoiding related complications in future.

CONCEPTUAL CONCLUSION

Percentage of GDM is increased now a days for which change in lifestyle is also a main factor. For uneventful pregnancy predisposing factors. During first visit history taking, (Family history, menstrual history, pattern, PCOD)is very important. For uneventful pregnancy such predisposing factors should be ruled out and potential subjects should be scrutinized for further monitoring. This will help healthy progeny.

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