

Anaemia in Pregnancy: Scope through Ayurveda

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ABSTRACT

Background: Numerous efforts are being done and implementation of several policies for the expected outcomes in the sector of MCH. Due to illiteracy, socio-economic factors, malnutrition, neglecting family planning and sedentary lifestyle affecting MCH in rural and urban population. *Agnimandya* is prime symptom and cause in *Garbhini pandu* and is responsible factors for many fetomaternal complications during ante and post natal life. Treatment of anemia limited upto correction of Hb% levels in the modern practice neglecting the other aspects. Essentiality we need a proper Ayurved protocol for correction of it with all aspects of *rasadushti* and allied symptoms. Abnormal *rasdhatu* formation leads to decreased Hb% called anaemia. Clinician tries to raise the Hb% directly bypassing the correction of *rasadushti*. Hence temporary increased level of Hb% may not help to avoid complications of anemia. We need such an approach which will correct *rasdushti* as well as will help to increase Hb%.

Objectives: clinical and literature study to understand all Ayurved aspects of anemia and methods of its correction to be implemented in general health system.

Material methods: Literature review has been done from all ancient texts, various research journals and data interpretation is done.

Observations: 1. Existence of anaemia during pre-pregnancy, antenatal, perinatal and post natal period definitely affects the concern women and new born. 2. Anaemia of pregnancy is major cause of many congenital malformations and neonatal complications. 3. Drugs available in modern medicine for oral and parenteral administration having GI and other general complications which further disturbs GI complaints is contradictory part of treatment. 4. Correction of Hb% levels with iron molecules may not break ayurvedic *samprapti* of *pandu*. 5. Efforts for anemia correction should be started at very early stage with awareness programme and eradication of faulty beliefs.

Conclusion: Ayurveda may give more authentic solutions for improvement of digestion and anaemia due to malnourishment and it can be corrected with help of Ayurveda to contribute MCH programme at global level.

Result: Ayurved principals of correction of malnutrition anaemia can be introduced in main health stream at ground level under national health mission. Education and health awareness programs need different vision for concept of digestion. Modern oral iron supplements can be replaced with safe ayurved iron tonics without causing gastro intestinal disturbances.

Key words: *Garbhini pandu, agnimandya, rasdushti.*

INTRODUCTION

Anaemia is persistent disorder and is related with almost all aspects gestational life. Its direct relation with growth and development of foetus stood as prime hurdle during various achievements and dreams of life. Lots of literature available and

considerable efforts are being taken for eradication of anaemia related to pregnancy through various governments and international organisations. Allopathic concepts and remedies are being implemented to minimise the evidences but unfortunately no change has been noticed in

prevalence of anaemia since last few decades. Rather the registered cases at clinics are increasing significantly due to faulty lifestyles and food habits. Ayurveda the basic life science has described micro level digestion and metabolism with factors responsible for growth, development and various ways to achieve life goals. Its need of time to get awakened by ayurved obstetricians for implementation of *pachan* theory. Concept of *aahar* has to be introduced into world health policies to reduce the morbidity rate of anaemia at global level. Not only iron supplement therapy is not optimum to improve digestion and anaemia correction but also it is essential to improve the *raktadhatu* formation process for complete relief from anaemia.

Aim and objectives:

1. To study concept of *garbhini pandu* and anaemia in pregnancy as per ayurved and modern literature respectively.
2. To establish relation between *agni chikitsa* and correction of haemoglobin levels.
3. To find possible ayurved approach to correct *garbhini pandu* and avoid its recurrence.
4. To find options while contributing world health system in management of anaemia and its complication through Ayurveda.

MATERIAL AND METHODS

Ayurved texts i.e. *Sanhitas* like *charak*, *sushrut*, *ashtang sangrah madhavidan* and academic books of *prasutitantra* have been used as study material along with modern medicine books of API medicine, text book of pathology, text book of obstetrics. Online published data from reputed journals and authorised websites especially of Govt of India have been also used as reference and data source material. Data has been reviewed and arranged in scientific manner for observations and conclusions. Observations found were processed for justification and conclusions. Conclusion drawn and final result has been put forward.

Inclusion and exclusion criteria:

Researches published in English international journals and original *ayurved sanhita* references considered for study while other non-authentic and literature of local languages is excluded from review.

Discussion on Ayurved and modern literature review:

Definition of anaemia: It is a state in which body parts like ^[1] skin, nail bed and eyes become pallor or faint in which peripheral blood haemoglobin ^[2] percentage is less than 11gm% in developed and 10gm% in developing countries.

Types Of anaemia: It is of five ^[3] type i.e. three *doshaj*, *sannipataj* and *mrud bhakshan janya* (Geophagic) types. Physiological ^[2] anaemia is due to hemo-dilution and water retention effect of progesterone, while pathological anaemia has wide range of causes like malnutrition, deficiency (Hypochromic (Fe), pernicious (Vit B12)), Megaloblastic (depressed bone marrow) aplastic (no erythropoiesis), haemolytic, chronic anaemia, due to complication of other diseases, worm infestation etc. According to Hb% it is of three types i.e. mild, moderate and severe with Hb% 9-10, 7-9 and less than 7 respectively.

Onset: According to *susruta* it is due to *raktaj* ^[4] cause while other claims it is due to *rasaj* cause. Anaemia due to bleeding cause is not separately mentioned by Ayurveda. In modern practise it is of acute and chronic type.

Causality: As per Ayurveda consumption ^[5] of hot, spicy, salty, fermented, unsuitable food, food of faulty combination, products like *mash* (*vinga mungo*), *nishpav* (*phaseolus vulgaris*), *pinyak* (sesam paste) and sesam oil, hyperacidity, day sleep, heavy exercise, excess coital acts, holding the urges alcohol, liquid ^[1] diet causes anaemia which is responsible for nutritional deficiency, mal-absorption mentioned in modern text. Improper treatments can be correlated with drug effect, geophagia i.e. *mrudbhakshan* ^[6] which is responsible for worm infestation. Psychological factors ^[7] like anxiety, worry, phobia, sorrow, greedy

feel, guilty feel are described in Ayurveda while chronic illness, haemolysis, repeated pregnancies, exposure to radiations and drugs, metal poisoning, bleeding disorders are seen in modern literature. More or less all similar causative factors directly or indirectly appear valid in clinical practice. Factors affecting digestion and absorption of nutrients like ^[8] ulcers of GIT, food type, food combinations, cooking methodology and drugs can be merged under above description.

Aetiology (Samprapti) of nutritional deficiency anaemia: ^[9]

Due to habitat of above acidic dietary causes faulty gastric juice (*aahar ras*) is formed. It enters to heart by inferior vena cava (without absorption of iron via duodenum, portal vein and liver) and increases acidic materials (*pitta*) in body. Appropriate colouring (*ranjan*) of gastric juice cannot occur. Such abnormal metabolic output (*dushit rasa dhatu*) comes in circulation and reaches to skin and muscles. It leads to loss of luster and normal colour of skin which becomes pale, called as *Pandu* or anaemia. Similar description seen in modern texts about iron deficiency ^[2] anaemia which states that due to inadequate intake, faulty absorption or lacking of essential elements like folate, vit b12 and micronutrient haemoglobin formation could not occur in the cells and MCHC falls down resulting dropping of peripheral Hb concentration and faintness seen at skin, eyes, tongue, soles and palm called anaemia. After failure of appropriate blood (*rakta dhatu*) formation various ^[9] muscles (*mans dhatu*) including heart unable to get strength and becomes weakened. Due to weak cardiac muscles heart fails to supply nourishing material to further body elements or supplies a faulty output of digestion which makes weaker to further elements.

Aetiology of geophagial anaemia: ^[2] According the type of soil consumed by the patient basic body constituents (*dosha*) gets vitiated and produces dryness in the body due to its dry nature. It also interferes the digestion of other food material and blocks

micro circulation (*rasavaha strotasa*), results in the weakness, pallor (*bala, ooj, varn haani*) and *pandu roga* develops. Later on it results into oedema of various parts and worm formation in the abdomen.

Early symptoms (purva rupa): ^[10]

According to ayurveda early symptoms like dryness of skin, excess salivation, body ache, geophagia, sub orbital oedema, yellowish discolouration of stool and urine, indigestion, palpitation, painful extremities, feverish sensation, heaviness, tastelessness are seen. Whereas ^[11] weakness, light head, loss of appetite, headache, body ache, leg-cramps, dysphagia, skin and nail changes, ankle oedema, dyspnoea on exertion, palpitations, chest pain are the symptoms of anaemia described in modern text. Both types of descriptions show GI, muscular and skin symptoms in anaemia.

Major symptoms or signs (Rupa): ^[12]

Ayurved states major symptoms as tinnitus, severe loss of appetite, weakness, lassitude, dizziness, exhosional breathlessness, painful extremities, feverish sensation, heaviness, tastelessness. On other hand modern signs like ^[13] pallor of mucous membranes and nail beds, koilonychias, cheilosis, glossitis, tachycardia, tachypnoea, cardiac murmurs, ankle oedema, painless parotid swelling, skin pigmentation and postural hypotension denotes advanced degree of disease with involvement of multidimensional effects on body. Feeling of emptiness ^[14] (*Nissar*) and loose organs (*shithil indriya*) are extreme features mentioned by *Ashtang Hruday*.

Complications: ^[15] tastelessness, polydipsia, fever, vomiting, headache, loss of appetite, oedema, weakness, unconsciousness, heart disease, pharyngitis, tinnitus, jaundice.

a. Maternal: ^[2] APH, pre eclampsia, sepsis, uterine inertia, prolonged labour, retained placenta, uterine inversion, PPH, shock, cardiac failure, death, puerperal sepsis, failure to lactation, thromboembolic disorders, sub-involution of uterus, delay wound healing.

b. Foetal: Miscarriage, congenital malformations, oligohydramnios, PROM,

IUGR, IUFD preterm labour, still birth, LBW, neonatal sepsis, perinatal mortality, delayed milestones,

Prognosis of anaemia (*sadhyasadhyatva*): [16]

Chronic condition with severe dryness of skin (*kharibhut*), anasarca, jaundice, passage of watery mucous and green coloured stool, depression (*Dainya*), severe degree pallor, vomiting, unconsciousness, polydipsia, peripheral edema .

Death indicators (*Arishta Lakshana*): [17] patient having oedema on genitals and anorectal region dies suddenly.

Special indicative features: [18]

Different types of anaemia have their special features like jaundice, hepato splenomegaly are due to haemolytic anaemia while leg ulcers seen in sickle cell disease. Spotted nails and koilonychia is feature of iron deficient anaemia, neurological deficiency found in megaloblastic anaemia, frontal bossing denotes malignancy and parasite infestation.

Aspects like stating the limitation or bad prognosis is clearly defined in Ayurveda texts along with death indicators. Special features help to clinician for correct diagnosis and optimum selection of drugs.

Treatment:

Principles (*Sutra*): [19] as pregnancy is delicate stage of life treatment should be consists of oily moisture (*snigdha*), easily digestible drugs, mild emesis (*vaman*) and use of ghee.

Formulations: [20] *Ghruta, Soumya Virechana, Vaman, Dadimadi Ghruta, Katukadi Ghura, Pathyadi Ghruta, Draksha Gruta, Tiktak Gruta, Mahatiktak Gruta, Aargvadha, Manuka, Gandharva Haritaki, Gomutra Haritaki.*

Ayurveda descriptions seem to be more towards oral route and body purification therapy. Improvement of basic metabolism, eradication of dietary causes, lifestyle modification, and selection of drugs according to nature of body of individual is highly considerable in it. Not only supplementation of deficient material but

also improvement of general metabolism is taken in consideration.

Treatment options in modern science: [2]

On basis of severity of disease elimination of cause and in deficiency state supplements like folate, Vit B12, ferrous molecule, iv iron therapy and last is blood transfusion.

Adverse effects [21] of oral administration of Fe supplement like gastric pain, heart burn, nausea, vomiting, staining of teeth, metallic taste, constipation and that of parenteral iron therapy are local site pain, pigmentation, fever, headache, joint pain, flushing, chest pain, dyspnoea, lymphadenopathy, and anaphylaxis. It is controversial part in which majority GI disturbances occur during correction of metabolic disorder. Hence proper consumption of drugs and correction of digestion is doubtful.

Diet (*Aahar*): [22] Fatless grains (*yava*), wheat, old rice, Mung bean, arahar (*aadhak*), lentil (*masur*), fatless meat soup (*jangal mans rasa*) are useful to reduce disturbed digestion of anaemia. After improvement of digestion ayurved drugs containing iron supplements can be administered. According to modern science green –leafy vegetables, dates, jiggery, dates etc food supplements are advised to anaemic patient due to their high consistency of iron. But none of these can improve the digestion of patient.

Drugs to minimise lassitude of body (*Dhatu shaithilya hara*) [23] *Lohabhasma, Roupayabhama, Abhrakbhasma, Suvarnabhasma, Mandur Bhasma, Suvarn Makshik*, mixed with *Triphala, Tapyad Loh, Vanga Bhasma, Navayas Louh, Laghumalini Vasant, Madhumalani Vasant* are some of the safe ayurved metallic preparations which improve lassitude of muscles and other body constituents. Being metallic these preparations never cause GI disturbances and help to improve strength of body. These medicines must be consumed with (*Anupan*) Ghee which is best soluble material for metallic preparations. Complete rest is essential by avoiding spicy and hot food, exposure to heat, exercise, walking,

weight lifting, sexual acts and anger during therapy.

Online published research literature:

1. Trimester ^[24] wise prevalence of anaemia found as 17.3, 23.8 and 50% in 1st, 2nd and 3rd respectively. Women having higher or higher secondary education has 76% less risk of anaemia of pregnancy, patients having prevalence of anaemia 17.4% with more than 4 ANC follow ups and that was 35.3% with women having only one ANC follow up.

2. To ^[25] improve maternal and foetal outcome it is recommended that the primary health care has to be strengthened, prevention, early diagnosis and treatment of anaemia to be given priority.

3. A quantitative ^[26] study was conducted at George Mukhari academic hospital, 20km from north Pretoria, south Africa, in 597 antenatal cases in which 54% cases had geophagia out of which 75.2% cases were eating 3tsf soil per day. Reason for it believed that soil as iron supplement. Study also reveals that no education levels matter for this belief.

4. Pregnant ^[27] women should take 100mg iron tablet per day for 180 days as preventive dose while therapeutic dose is twice a day for same period. Pre-marital girls should take 100 mg irons per day up to 100 days per year.

Observations:

1. Anaemia is a serious and wide range clinical entity having long term effects on human life and affects the person both physically and mentally for longer duration.

2. Existence of anaemia during pre-pregnancy, antenatal, perinatal and post natal period definitely affects the concern women and new born.

3. Anaemia of pregnancy is major cause of many congenital malformations and neonatal complications.

4. Drugs available in modern medicine for oral and parenteral administration having GI and other general complications which further disturbs GI complaints is contradictory part of treatment.

5. Correction of Hb% levels with iron molecules may not break ayurvedic *samprapti* of *pandu*.

7. Correction of Hb% may not eradicate anaemia completely until and unless the metabolism correction is done.

8. Improvement of socio economical and educational status, with implementation of ayurved diet concept in routine life of at global level is essential.

9. Ayurvedic diet concept has more potential to correct appetite than that of modern diet plan for anemia.

10. Efforts for anemia correction should be started at very early stage with awareness programme and eradication of faulty beliefs.

CONCLUSION

Ayurveda may give more authentic solutions for improvement of digestion and anaemia due to malnourishment and it can be corrected with help of ayurveda. Implementation of this concept at ground root level of world health policies instead of allopathic concepts can give better outputs. Provided that the ayurvedic iron supplements should undergo researches in order to maximum absorption to reduce time period of therapy. Though anaemia of acute onset and of severe degree will not be managed with Ayurveda but we have lots of hopes for deficiency related conditions to contribute MCH programme at global level.

Result: Ayurvedic principals of correction of malnutrition anaemia can be introduced in main health stream at ground level under national health mission. Education and health awareness programs need different vision for concept of digestion. Modern oral iron supplements can be replaced with safe ayurved iron tonics without causing gastro intestinal disturbances.

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