



A Profile on Medico-Historical Aspects Of Anaemia In Ayurveda

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Abstract:

Anaemia (Pandu) has been well discussed in Ayurveda since ancient times. Rigveda mentions it and Atharva Veda finds the relation with Ayas ie Iron. Charaka, Susruta, Harita and Bhela etc described its management in detail. Various aspects of Pandu like diagnosis, food related, life style related, psychological, disease related Etiology, types, pathogenesis, prodromal symptoms, clinical signs and symptoms, prognosis, clinical management, complications, dietary & other regulations described by different Acharyas from ancient, medieval and recent times were discussed in chronological order. Attempt was made to highlight contribution of them specific to anemia management. This will be relevant now because of prevalence of anemia in our country. Ayurveda will support the strategies to improve Quality of life of people by its principles.

Key words: Pandu, Anemia, Evolution of Ayurveda, historical profile

Introduction:

Anaemia is one of the common disease affecting all the people of different backgrounds such as country, income, age, gender etc. It is prevalent in all groups of people. Because of its widespread nature, it is still an important disease in public health management. Due to its multifactor etiology it affects all. Its etiology includes nutritional causes like macronutrient (Iron)

deficiency, protein deficiency, blood loss due common conditions like haemorrhoids, ulcers, accidents, surgery, menstrual loss, delivery etc., different diseases, various drugs specially anticancer drugs, genetic disorders like Thalassemia, sickle cell disease etc. Among them nutritional (vitamin B12, folic acid, Iron and Protein) deficiency either primary or secondary, is

the foremost reason for anaemia, followed by blood loss and other disorders, in India and world wide. Detailed references are found about Anaemia in Ayurveda from Rigvedic period to recent times. Researches are still conducted to understand its multifaceted etiopathology and its management to suit the needs of current situation globally.

In Rigveda references are found with terms like Harima / Halima and Vilohita. Harima means yellowish discolouration which denote jaundice (Kamala) and Anaemia (Pandu). Vilohita refers condition of blood loss. Atharva Veda mentions these diseases and even describes treatment with Iron (Aya). References of Pandu or anemia are found in Mahabharata, where king Pandu born with pallor. In Agnipurana and Garuda Purana description of Pandu is found.

In Ayurveda, Anaemia as a disease was described in detail in all samhita and sangraha texts. All have described the etiology, pathogenesis, clinical features, prognosis, complications and management of Pandu.

In Caraka Samhita, Cikitsasthan 16th chapter describes in detail about Pandu (anemia). Susruta Samhita deals with Pandu management in Uttara Tantra 44th chapter.

Harita samhita describes Pandu in Tritiya sthana (Cikitsa) 8th chapter. It elates it as 'Mahagada'.

In Kasyapa samhita clinical features of Pandu were explained in Sutra sthana 25th chapter named Vedanadhyaya. But Cikitsa chapter is missing.

In Bhela samhita cikitsa sthan 25th chapter named Pleeha Halimak Cikitsa, some treatments were described. But total description was missing.

Astanga Sangraha and Astanga Hrdaya explain nidana in 13th chapter of nidana sthana. Pandu cikitsa is described in 18th chapter of Astanga Sangraha and 16th chapter of Astanga Hridaya.

Madhavanidana describes etiopathology in 8th chapter. Bhaprakasha explains its nidana and cikitsa in madhyama Khanda as Panduroga kamala Halimakadhikara. Its description is found in various sangraha texts too.

Pandu roga is disease in which "Pandu" varna (colour / complexion) is identifying clinical feature. 'Sabdastoma' explains it as svetavarna (white colour), resembling the colour of pollen of Pandanus flower (Ketaki dhuli sannibha), along with yellow colour. Bhattojidikshita on Amarakosha commentary explains it as white with yellowish tinge (peeta samvalita sukla). Commentators like Cakrapani, Dalhana, Arunadutta meant it as sveta, dusara, svetavabhsa and peetavabhasa. Gangadhara describes it as Mlana varna. Caraka describe Pandu as " Vaivarnyam bhajate atyartham" (Ca.Ci.16/6). Vaivarnyam means discolouration. It has two contexts – 1. Vigata varna (diminished colour) and

2. Vikrita varna (abnormal colour). Pallor, paleness or diminished colour or whitish colour are prominently found all over skin especially in eyes etc.

In Pandu whitish discoloration is predominant eventhough other discolouration like yellow (haridra), harita (green) etc are also found.

Identificaton:

Panduroga is identified especially with the pallor wit other signs symptoms mentioned Ayurveda. Whitish discolouration of skin all over body is described in all texts as main identification sign. Sveta akshi (paleness of conjunctiva) is described in Kashyapa samhita along with pallor of skin. (Kashyapa samhita sutra 25th chapter verse 35).

Etiology:

Pandu is pitta predominat disorder involved with vitiation of all three doshas. Anaemia etiology is multifactorial. Ayurvedic scholars have dealt it elaborately. Principally etiology is of 3 types viz. 1. Ahara (food / nutritional) 2. Vihara (life style) and 3. Nidanathakara roga (produced by other diseases).

Food related Etiology (Ahara):

Excessive intake of alkaline (kshara), sour (amla), salty (lavana), hot (ushna), mutually contradictory food (viruddha), unwholesome food (asatmyabhojana), nishpava (a type of grains),

blackgram (masha), gingley oil and paste (tila tala and pinyaka) will lead to Pandu as per Caraka. (Ca.Ci. 16/7).

Susruta samhita includes madya (alcohol preparation), mrit (clay) and teekshna (highly irritant substances) in etiology.

Haritha samhita describes Kalyamaireya (type of alcohol preparation) consumption, intake of even katu (pungent), kashaya (astringent) substances as etiology of anaemia.

Dalhana adds consumption of Pishta (flour), drinking only milk, fish, meat, cane sugar juice and dry substances (ruksha) as etiology.

Eating clay or earth (Mrttika) is said as one of the important reason. DushiVisha and vitiated water consumption are also mentioned as Etiology. (Panduroga by R.R.Pathak)

Life style related etiology (Vihara) :

Vihara can be devided into tw types. 1. Physical (Saririka) 2. Psychological (Manasika) reasons.

Physical :

Sleeping during day time (divasvapna), exercise (vyayama) and sex (vyavaya) during time of digestion of food (vidagde ane), improper administration of Pancakarma therapies, not following proper seasonal regimen and suppression of natural urges are reasons for anemia according to Caraka. (Ca.Ci. 16/8)

Excessive exercise and sexual indulgence are also etiology of Pandu as per Susruta.

Kashyapa samhita describes anaemia as a complication of improper Oleation therapy (snehana) and non observance of diet mode of life style after purificatory (shodhana) therapy. (K.S. Sutra 22/49-51; 24/16-17). Consumption of sneha (oily substances) and anda (eggs) during Lasuna Kalpa therapy leads to anaemia. (K.S. Kalpa 2nd ch. 73-76)

Haritha samhita describes excessive walking on journey (adhva), excessive work, no exercise sleeplessness etc. also as etiology of anaemia.

Psychological causes:

Excessive desire (kama), worry (cinta), fear (bhaaya), anger (krodha), grief (Soka) will afflict mind (cetas) which in turn vitiates physical dosha like Pitta etc. to produce Pandu. (Caraka Cikitsa)

Haritha samhita also describes Cinta and Rodhan etc as etiology.

Diseases as etiology of Pandu (Nidanartha kara roga):

Haritha samhita describes fever (jvara), bleeding (raktasrava), wound or ulcer (vrana) as one the etiology of Pandu.

Kashyapa describes anaemia as a complication in Raktagulma (K.S.Cikitsa 8/18-19). Pandu is described as one of the 64 puerperal complications. (K.S.Khila 11/7-13)

All disease where there is loss of blood viz. raktaipravirtana, katika taruna marmavedha, raktavahidhamani vedha, raktarbuda, antarlohita, yakrit pliha vedha (Susruta), raktapitta complications (caraka), raktasrava (Sharangadhara uttara 12).

Other disases viz. Punaravartaka javara, jeerna jvara (Ca.ci.), arsa (Susruta), krimi, asrigdara, pleehodara, yakridalyudara, dooshyodara, raktarbuda, vyavaya sosha, sosha, pittaja pratisyaya, pittaja kasa, antarmrita sisu, revatigraha, sukra kshaya, beejopaghata. Pittadoosha stanya, Paittika prameha, asmari rogopadrava, mamsa marmabhighata, sarkara, sotha, vranayama, pakvasayagata visha, akhu visha, rajimata sarpa damsha, raktadoshaja vikara, raktagata kapha, garbha and raktaja gula etc will produce anaemia. (Pandu roga by RR Pathak)

Types of Pandu (Bheda):

Caraka and many other Ayurvedic texts like Haritha, Kashyapa, Vagbhata, Madhavanidana etc mention 5 types of Pandu viz. 1. Vataja 2. Pittaja 3. Sleshmaja 4. Sannipataja and 5. Mridbhakshanaja.

Susruta describes 8 types of Pandu viz. 1. Vataja 2. Pittaja 3. Sleshmaja 4. Sannipataja 5. Kamala 6. Kumbha 7. Lagharaka or Alasa and 8. Halimaka. In these last four are related to Pandu but they have separate identity beyond Pandu.

Haritha describes Mridbhakshanaja Pandu as Rukshanaja Pandu.

Pathogenesis (Samprapti):

Various reasons mentioned above will aggravate Pitta located in Hridaya (heart). Vata propel it into ten vessels (dhamani) and circulate it all over the body. Located between skin and muscles, Pitta vitiates Kapha, Vata, blood, skin and muscles, as a result of which different types of discolouration like Pandu (white), Haridra (yellow) and Harita (green) appear on skin.

When dosha especially Pitta aggravate in dhatus, they get afflicted resulting in their weakness (sithilata) and heaviness (gaurava). Followed by diminished of complexion / colour, strength, ununctuousness, properties of Ojus on account of vitiation of dosha and dushyas. Hence the patient becomes poor in blood, fat and vitality of tissues. Sense organs become weak. Discolouration appears. (Caraka cikitsa)

Cakrapan comments on Ojus here as Rakta dhatu.

Prodromal Signs & Symptoms (Purvarupa):

Palpitation, dryness, absence of sweating and fatigue are seen initially in Pandu. (Caraka) Susruta describes cracking of skin, spitting, malaise, liking for eating clay (**Pica**), swelling around eyes, yellowish urine stools and indigestion as prodromal signs and symptoms of Pandu.

Haritha samhita describes pallor of body also as initial sign.

Vagbhata includes tastelessness beyond above features. (A.H.Ci. 13)

Clinical features (Rupa) of Pandu:

Caraka describes following general clinical features of Pandu: tinnitus, suppression of digestion, weakness, prostration, hatred of food, fatigue, giddiness, pain in the body, fever, dyspnoea, heaviness, tastelessness. Patient feels as if all his limbs are being kneaded, squeezed and churned. Swelling of orbits, greenish discolouration, falling of hair, loss of luster, irritability, dislike for cold, sleepy, excess expectoration, diminished speaking, and cramps of calf muscles, pain and weakness in back, thighs and legs, dyspnoea on climbing up.

In Kashyapa samhita, oedema around umbilicus, whitish discolouration of eyes, deformation of nails (nakha vakrata), diminished appetite, swelling of orbits are described as clinical features of Pandu. (K.S. 25/34-35)

Astanga Hridaya describes flabby body, increased heart rate and exertion in addition to above features.

Based on the etiology five types of Pandu will develop and their signs and symptoms will depict the dosha vitiated. Sannipataja Pandu will exhibit features of all three doshas.

Mridbhakshanaja Pandu:

Habitual eating of clay aggravates one of the three doshas. Mud of astringent taste aggravates Vata, saline mud aggravates Pitta and Sweet mud aggravates Kapha. Because of dryness (Ruksha), Mrit causes dryness in Rasa. Undigested Mrit will fill and obstruct the channels (srotas), afflicts and diminish the strength of sense organs, luster, energy and Ojus. It instantly leads to anaemia, with diminishing strength, colour and appetite. Swelling of orbits, cheeks and eye brows, oedema of legs, umbilicus and penis, worms in intestines, diarrhoea with blood and mucous will be seen. (Caraka cikitsa)

Astanga Hridaya includes swelling of face and stools with worms and broken faeces.

Haritha samhita describes severe emaciation of tissues (dhatu kshaya), non nourishment of blood and body, instant destruction of parts of life (Jivanamsa) in Mridbhkshanaja Pandu.

Prognosis (Sadhyasadyata):

Caraka describes features of Pandu which if appear will indicate its incurability. Pandu of chronic origin, with excessive dryness, oedema due to chronicity of disease, objects looking yellow, constipation and less stools, stools with mucous, green colour and loose nature, prostrated, excessive whiteness in body, afflicted with vomitings, fainting, excessive thirst, patients getting pallor due to more loss of blood will not survive.

Susruta, Madavanidana, Yogaratnakara describe following symptoms as incurable :

The individual suffering from Pandu will not survive if paleness appears on his teeth, nails and eyes and who sees everything as if they are in pale colour. (Su. Sutra 33)

Patients of Pandu who has swelling in extremities and emaciation in central part of the body and vice versa (ie swelling in center & thin extremities) and has swelling of the anus, penis and testes, who is very weak and looks like dead one will not survive.

Pandu patient should also be discarded if suffers from fever and diarrhoea (Su.Uttara 44, MN, YR)

According to Jejjata, the chronic Pandu will not be cured. And even the acute Pandu will not be cured if the patient has swelling and sees everything in yellow colour.

According to Cakrapani chronic Pandu in which all the tissues become rigid.

Complications (Upadrava):

Tastelessness, thirst, vomiting, fever, headache, diminished appetite oedema of throat, debility, fainting, exhaustion, pain in heart are complications of Pandu as per Susruta.

Halimaka:

If colour the patient suffering from Pandu becomes green, black or yellow and if he suffers from dimunition of strength & enthusiasm,

drowsiness, diminished appetite, mild fever, lack of libido, malaise, dyspnoea, morbid thirst, anorexia and giddiness, the ailment is called Halimaka, caused by aggravation of Vata and Pitta. (Ca.Cikitsa)

Lagharaka or Alasa:

Pandu with fever, body pains, giddiness, malaise, drowsiness and wasting are seen in this disease. (Su.Uttara 44)

Panaki:

High temperature with diarrhoea, yellow colour appears on external and internal organs, paleness of eyes are seen. (Yogaratanakara)

Clinical Management of Pandu

Caraka describes that in patients of Pandu of curable nature, emetic and purgative therapies with unctuous and teekshna drugs should be given for cleansing the body by eliminating the doshas.

After cleaning Koshta by purificatory measures, wholesome food containing Sali (rice), barley, wheat, mixed with soup (Yusha) of greengram, adhaki and lentils, and soup of animals inhabiting arid zones.

Based on dosha aggravation other medication should be given.

For snehana (oleation) Pancagavyaghrita, Mahatiktakaghrita, Kalyanaka ghrita etc should be given. (ca. Ci. 16/39-43)

Susruta describes Urdhva & adha Shodhana with Snigdha ghrita followed by treatment with

formulations containing Haritaki powder mixed with plenty of Honey & ghee.

Ghee cooked with Haridra or Triphala or Tilvaka or some purgative drugs / formulations with ghee are also prescribed.

Kashyapa samhita mentions in its Satapuspa Kapa that Satapuspa should be administered in persons suffering from Pandu, Kamala etc with She-buffalo milk and urine. (K.S. Kalpa 5/ 20-22). It also mentions Trivritastaka curnam with Pathya, Trijataka, Vyosha, Vidanga, Amalaka, Ghana - all equal parts, mixed with sugar 6 times, Trivrit 8 times to all, grinded together to cure anaemia. (K.S. Khila 7/ 65-66)

Bhela Smhita describes Ayoraja (Iron powder) for administration along with milk as Rasayana in Halimaka. (Bhela samhita Cikitsa 25/ 11)

Harita samhita mentions many preparations containing Iron for curing Pandu viz.

1. Loha curnadi vati - iron powder grinded with cow urine and administered internally along with honey.
2. Loha powder or Lohakittam mixed with Trikatu, Triphala, Trimada and grinded with Ikshurasa (canesugar juice) and administered with honey and ghee.
3. Mandura vati, Vajramandura vati, Amrita vati etc were also mentioned.

Caraka mentions Iron preparations like Navayasa curna, Mandura vataka, Tapyadi yoga,

Yogaraja, Silajatuvataka, Punarnavadi mandura, Manduravataka, Dhatriyavaleha, Darvyavaleha, Gudarista, Bijakarista etc.

It also mentions Iron powder impregnated with cow's urine for 7 nights administered along with milk.

Haritaki along with cow urine for 7 days followed by food with milk or sweetened meat soup after digestion of medicine is also prescribed in Caralka.

Susruta mentions :

. Loharaja with Trikatu, Vidanga mixed with ghee & honey

- Haridra & Triphala mixed with honey & ghee
- wholesome diet with juice of Amalki fruits or sugarcane juice or honey
- Triphala pulp with lauha curna with Pravala, Mukta, Anjan curna etc.

Astanga Sangraha describes Iron (Ayoraja) as the top medicine for curing Anaemia (Pandu) (A.S. Su. 13/2)

Vrindamadhava mentions:

- Goat milk cooked Bijapura roots along with purified Saileya (bitumen) for Vataja Pandu
- Two parts of sugar +one part of Trivrit in a dose of half Pala for Pittaja Pandu
- Decoction of Dasamula and sunthi for Kaphaja Pandu
- Loha preparations along with buttermilk (Takra) as adjuvant (anupana)

Yogaratnakara describe some special preparations like 1. Madura lavana 2. Madhu Mandura 3. Manduradyarista 4. Hamsa Mandura 5. Mathebha simhasuta rasa etc for anaemia management.

In Bhaisajyaratnavali following important formulae were mentioned

- Gudaharitaki
- Milk boiled in Iron vessels is advised for drinking.
- 1. Tiladi modaka 2. Trikatrayaloha 3. Pancamrutalohamanduraa 4. Candrasuryatmaka rasa 5. Pranavallabha rasa 6. Punarnavadi tailam 7. Parpatadyarista 8. Lauhasava etc

Kashyapa samhita mentions that in anaemia purgation (Virecana) with overunctuous (atisnigdha) diet/ drugs is prohibited (K.S.Khila 7/27-28)

Sveda karma (Sudation therapy) is prohibited in Pandu roga.

Pathya & Apathya :

Harita samhita describes compatible food for anaemia as wheat, rice, barley, greengram, adhaki, ghee, milk, buttermilk, Gandiva, Vastuka (Chenopodium), fennel and Meat of Jangala animals.

Apathya are bitter, dry, pungent, teekshna, hot substances, Kanjika, Sura, Aml, Sauviraka, (Alcoholic preparations), Bijapura, Taila (oil).

Vrindamadhava also mentions above as pathya.

Yogaratanakara mentions Masura also as pathya. In apathya it includes fire, sun exposure, exercise, Pittaja food, sex, anger and journey.

Kashyapa mentions that meat soup and canesugar juice are contraindicated in anaemia.

Research

Research was conducted in all Ayurvedic institutes in their PG and doctoral research.

Special projects were conducted regarding anaemia research. Two books Viz Anaemia in Ayurveda By Mehta and Panduroga By Ram Raksha Pathak were published based on Pandu research. Nutritional research supported Ayurvedic line of management.

Discussion & Conclusion

Pandu is still one of the disease condition affecting millions of people in India as well globally. Women, children and old people are more affected. Multiple etiological factors including under-nutrition especially of protein, Iron etc, intestinal infestations, haemorrhoids, pregnancy etc. leading for more cases of anemia. It is a major concern of public health strategies of country. Management of anemia will help in Quality of Life and increase the healthy working conditions.

Ayurveda through its comprehensive approach will help the society in managing this thus promote the public health.

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