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A Compressive Review Article on Pandu Roga (Anaemia)

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Abstract

The disease pandu is fairly widespread in society. In India, Pandu Roga is most frequently caused by a nutritional iron deficiency. Lack of haemoglobin and Dhatus are two symptoms of Pandu Roga (Anemia), which is brought on by a diet low in iron. The symptoms of these illnesses include skin discolorations that are Shweta (whitish), Pita (yellowish), and Harita (greenish), as well as the appearance of Ketaki Dhuli Nibha Chaya (discoloration that resembles the colour of the Pandanus flowers). The most common nutritional deficiency illness in the world is anaemia, which is a significant issue for global public health. Several oral iron preparations are used to treat anaemia, but they come with a variety of side effects, including nauseousness, vomiting, diarrhoea, constipation, and a metallic taste. Due to changes in the intestinal flora, these worsen the patient's condition. There are many options available in Ayurveda for treating Pandu Roga. The Ayurvedic perspective on Pandu Roga (Anemia) is summarised in this scientific paper.

Keywords: Ayurveda, kayachikitsa, pandu, anemia, chikitsa

Introduction

The most prevalent disorder in people is likely Pandu roga. Anemia, also known as pandu roga in Ayurveda, is a condition that is exacerbated in India by malnutrition, poverty, and illiteracy. In India, nutritional iron deficiency which affects around one-third of the world's population is the most frequent cause of anaemia ^[1]. Pandu Roga is a Pitta Pradhana Vyadhi and since Pitta is responsible for normal colour of the body, so, if it gets vitiated, impairment of colour and complexion (Panduta) occurs. Thus, disease characterised by Pandu Varna due to significant deficiency of Rakta Dhatu is known as Pandu Roga ^[2]. According to ancient Ayurveda texts, the Samanya Lakshanas of Pandu Roga include Raktalpata, Medalpata, Nissarta, Vaivarnya, Ojogunakshaya, Daurbalya, Aruchi, Bhrama, Shithilaendriya, etc. In terms of Nidana, Samprapti, Lakshanas, and Chikitsa, Pandu Roga as described in Ayurveda books closely resembles the description of anaemia found in contemporary texts ^[3].

In contemporary science, Pandu Roga is known as anaemia. The absence of enough haemoglobin in the blood is known as anaemia. The ability to provide oxygen to the tissues and organs is reduced when haemoglobin is absent. It may also be triggered by the presence of aberrant haemoglobin. It is linked to decreasing levels of haemoglobin or reduced packed red blood cell volume (PCV). Iron Deficiency Anaemia is the most widespread nutritional deficiency condition in both developed and developing countries, with a prevalence rate that is higher in children and women of childbearing age. It is also the most common type of anaemia. Globally, 30% of the total world population are anaemic and half of these have Iron

Deficiency Anaemia ^[4]. According to the WHO, iron deficiency anaemia affects 25% of men and 50% of women and children in underdeveloped nations like India.

Nirukti of Pandu

1. Shabdarnava Kosh claims that "Pandustu Peetbhagardh Ketaki Dhulisannibham" refers to Pandu's resemblance to the white golden pollen grains of the Ketaki flower ^[5].
2. 'Pandutwenuplakshito Rogah Pandu Rogah' means the disease which resembles Pandu Varna is known as Pandu ^[6].

Definition of Pandu

Sarveshu Chaiteshvih Pandubhavo Yatoadhikoatah Khalu Pandurogah.

Means It is called Pandu Roga because of the predominance of paleness all over the body ^[7]. The definition of pandu is covered in great detail in the classic works Pandu Bhava, Pandu roga, Pandu Varna, Pandutva, and Harita. It is clear that every author emphasised colour while defining the pandu roga and when making a diagnosis or differential diagnosis.

Paryaya of Pandu

Acharyas had described pandu vyadhi in various paryayas which mainly based on the colour. They are ^[8] Pandu, Lagharaka, Alasakshya, Panaki, Haridra & Kumbhava.

Samanya Nidana

The etiological/Samanya Nidana of Pandu Roga mentioned in

Charka, Sushruta and other Samhitas can be broadly classified into 3 groups^[9, 10].

- Aharaja nidana
- Viharaja nidana
- Nidanarthaka rog

Aharaja Nidana

Food or diet plays an important role in the normal development and maintenance of different Dhatus as well as in the vitiation of Dosha^[11].

- Consuming excessive amounts of the alkaline, sour, salty, hot, and teekshna (penetrating) Ahaars.
- The food/Ahara that is asatmya and virudhha (incompatibles) (unwholesome).
- Intake of Nishpav, Masha, Pinyak and Til Tail in excess.
- Excess consumption of wine (Madya), eating mud (Mrida) and Mridu Ahaar.

Viharaja Nidana

- Abundant Maithun, Vyayama, and Diwaswapan.
- Ritu Vaishamay and Pratikarma Vaishmaya (inadequate panchakarma administration) (faulty management of seasonal regimen).
- Suppression of natural urge (Vega Dharan)^[12].

Nidanaarthakara Roga

In Ayurvedic literature, pandu roga has been described as either a symptom of many diseases or as rupa, upadrava, hence all of these can be regarded as nidanaarthaka rogas of pandu. Pureeshaja Krimi, Raktagulma, Pleehodara, Asrudhara, and Raktasrava^[13].

Poovarooopa (Premonitory Symptoms)

The symptoms indicated by Acharya Charaka include roukshyam (dryness), swedabhava (lack of perspiration), and shrama (fatigue)^[14].

Acharya Susruta stated the Mootra peetata, Twaksphotana, Steevana, Gatrasada, Mrid Bhaksha iccha, and Avipaka^[15].

Acharya Vagbhata mentioned Hridaya spandana, Aruchi, Peeta mutrata, Swedaabhava, sheerna lomata^[16].

Rupa (Symptoms)

According to the Dosha participation described below, Acharya Charak noted the Samanya and Vishesh rupa of Pandu Roga in chapter 16 of Chikitsa Sthaan^[17].

Samanya Rupa

- Loss of Indriye Bala, Tej, Veerya and Oja.
- Loss of Bala, Varna and Agni (power of digestion).
- Aruchi (heaviness), Jwara (fever), Shwasa (breathlessness), Gaurva (heaviness), Shrama (fatigue),

Bhramanipidita (giddiness), Durbalya (general weakness), Annadwesa (aversion to food) (anorexia).

- Akshikutashoth (swelling over orbit), Shirmaloma (hair fall), Hataprabha (body complexion become greenish).

Vishishta Rupa: Acharya Charka had classified Pandu Roga into 5 types; based on these types Vishesh Rupas are described^[18, 19].

- Vataj Pandu:** Krishna Pandutva (blackish paleness), Ruja (pain), Toda (piercing pain), Kampa, and Ruksharunangata (roughness and reddishness of the body) are all terms used in Buddhism (trembling) Pain in the sides of the head (parshvasirorujah), dryness of faeces (varchahsosh), monthly diarrhoea (Vairasya), oedema (Sopha), hardness of the bowels (Anaha), and balakshaya (debility).
- Pittaja Pandu:** Patient with Pittaja presents with Pita (yellow), Harita (greenish tinge), Jvara (fever), Daha (burning sensation), Chardi (vomiting), Murcha (feating), Pipasa (thirst), Pita Mutra (yellowish urine), and Pita Shakru (yellowish faeces). He sweats a lot, possibly craves cold weather, and may have a food aversion. He might have a pungent mouth, and spicy and sour foods don't go well with him. He may also exhibit Amla Udgara (acidic eructations), Daurbalya (weakness), and Tama (a sensation of gloom).
- Kaphaja Pandu:** Patient with Kaphaja Pandu presents with Gauravam (heavyness), Tandra (drowsiness), Chardi (vomiting), Svetavabhasata (whitish complexion), Praseka (excessive Salivation), Lomaharsha (horripilation), Sada (malaise), Murcha (fainting), Bhrama (giddiness), Klama (exhaustion), Svasa (dyspnoea), Kasa (cough), Alasya (lessitude), Aruchi (anorexia), Vaksvaragraha (obstruction in speech and voice), Shukla mutra (whitish urine), Shukla Akshi (whitish eyes), Shukla Varchasa (whitish stools) and desire for pungent, and hot things, Svayathu (swelling), Madhurasya (sweetness in mouth) etc.
- Sannipataja Pandu:** All doshas become vitiated in people who use a variety of substances, leading to Panduroga, which manifests as all of the aforementioned symptoms (Vataja, Pittaja, and Kaphaja) and is believed to be highly problematic.
- Mritbhakshana Pandu:** It results from a propensity of eating soil. Kharaguna and Ksharaguna (rough and alkaline) viriate Pitta, Madhura rasa (sweet taste) viriate Kapha, and Kashayarasa (astringent) of earth viriate Vata. The soil also blocks the srotas (channels) without changing them, destroys the bala (strength), ojas (vigour), etc., and produces Panduroga, which further kills the bala (strength), Varna (complexion), and Agni (digestive fire) of the man. Individuals may have swelling in their cheekbones, orbits, feet, navel, and genital areas in addition to krimiroga and atisara (bloody and mucousy diarrhoea).

Table 1: Classification of pandu roga according to different texts by Different Acharyas^[20, 21]

Types	Charaka Samhita	Susruta Samhita	Ashtanga Hridayam	Ashtanga Sangraha	Madhava Nidana	Bhava Prakasha
Vataja	Yes	Yes	Yes	Yes	Yes	Yes
Pittaja	Yes	Yes	Yes	Yes	Yes	Yes
Kaphaja	Yes	Yes	Yes	Yes	Yes	Yes
Sannipataja	Yes	Yes	Yes	Yes	Yes	Yes
Mritbhakshana Janya	Yes	No	Yes	Yes	Yes	Yes

Samprapti: The Samprapti of Pandu was referenced by Acharya Charaka in Chikitsa Sthan. He claims that after

Nidana Pitta, or Sadhak Pitta, is consumed, it becomes inflamed and is ejected from the Hridaya by strong Vata,

where it enters the Dash Dhamanya (connected to the heart) and circulates throughout the body. Rakata will propel the aggravated Pitta dosha through ten arteries that distribute it throughout the body. Pitta impacts Kapha, Vata, Rakta, tvak, and Mamsa, among other doshas, and as a result, the skin can take on a variety of hues, including pale yellow, deep yellow, and green. This ailment is referred to as "Panduroga" [22].

Sadhya Asadhyata: Chronic Pandu Roga patient whose Dhatu receives Khar does not heal. Moreover, oedema forms, and all the items are yellow in colour. Shotha develops as Ruksha replaces Sharir Dhatus and Bala and Varna decline. Rogi experiences constipation, passes loose stools with mucus that is greenish in colour, and transforms into Deena while experiencing Murcha and Trushna [23].

Upadrava: According to Acharya Sushruta Aruchi (Anorexia), Pipasa (Thirst), Chardi (Vomiting), Jwara (Fever), Agnisada (Dyspepsia), Murdha-Ruja (Headache), Kanthagata Shotha (Oedema in throat), Abalatva (Weakness) Murchha (Fainting), Klama (Fatigue), Hridaya Pidana (Cardiac Pain), Shwasa (Breathlessness), Atisara (Diarrhoea), Kasa (Cough), Swarabheda (Obstruction of Speech) are the Updrava of Pandu Roga [24].

Ayurvedic Treatment of Pandu Roga [25]

General treatment methods given in Ayurveda are as follows

1. Nidana Parivarjana (Avoid aetiological factors)
2. Shodhana (Eliminating the factors responsible for generating the disease).
3. Shamana (Palliative treatment)

All of the extant Ayurveda texts describe how to treat pandu roga, which falls under two categories.

1. Samanya Chikitsa. They are Snehan, Shodhana, Aushadhisevan.
2. Vishishta Chikitsa

Samanya Chikitsa

- The patient with Pandu Roga should initially have Snehan Treatment, followed by Emetic and Purgation Therapies, along with unctuous and sharp medications for the removal of Dosas.
- Patients should be given medication when the body has been cleansed. Wholesome diet made of old sali, barley, and wheat combined with mudga, adhaki, and masura yusa, the rasa of desert zone animals.

Vishesha Chikitsa

- In Vatika Pandu Snigdha Guna Pradhan Aushadha are to be used internally.
- Tikta Rasa and Shitaveerya Pradhan Aushadha should only be utilised internally in Pittaja Pandu. Internal use of Katu-Tikta Rasa Yukta and Ushna Veerya Pradhan Aushadha is required for Kaphaja Pandu.
- In Sannipataja Pandu Mishrit Guna Aushadha are to be used internally.
- In Pandu Poga Vanaspatika and Khanija Yoga, Asava Arishta, Avaleha, Churna Yoga, Vati Yoga are used.
- In Mridbhakshana Pandu, Tikshna Sansodhan (Vaman and Virechana) must remove the ingested soil from the body by assessing the Shaaririk and Agni Bala of Rogi. After Shodhana, when the soil has been expelled from the body, medicated Agnivardhak and Balvardhak Ghrit should be utilised to strengthen the body.

Pathyapathya [26]

Pathya Ahara

Food: Old wheat, rice (shashtika), barley, jowar, green gram and pea.

Vegetables: Bimbi (*Coccinia indica*), chakvat (Goosefoot), palak (Spinach), shepu (sowa), dudhi (Bottle Gourd), patola (Pointed Gourd), shepu (Sowa), jeevanti (*Leptadenia reticulata*, Haridra (Turmeric), and punarnava (*Boerhaavia diffusa*).

Vihara: Laghu Vyayama (light exercise).

Apathya Ahara: Shaka varga-Shaka varga Shimbi varga-Matara, masha, pinyaka Dal-Til (sesame), sharshapa (mustard) Tail varga-Bijowartail

Vihara: Ati vayayam (excessive exercise), Ativyavaya (excessive coitus), Diwaswapa (day time sleep), Vega vidharana (holding natural urges), krodh (anger).

Modern Point of View Anaemia

Haemoglobin, a crimson pigment found in human blood, is iron-rich. It delivers oxygen to various body parts. Anaemia, or a lack of iron in the diet, results in a decrease in the amount of haemoglobin, which makes the blood thin and less red and reduces the amount of oxygen delivered to the body's various organs [27]

Classification of Anaemia

On The Basis of Cause

- Blood loss
- Inadequate Production of Normal blood cells
- Excessive destruction of blood cells

On The basis of morphology

- Normocytic
- Microcytic
- Macrocytic

Symptoms and Signs

- Fatigue, body ache, decreased exercise tolerance, palpitations
- Pallor
- Koilonychia
- Cheilosis
- Inadequate growth in children

Iron Deficiency Anaemia: Iron insufficiency is the most prevalent nutritional deficiency disorder in the world, however it is more prevalent in underdeveloped nations. Iron is necessary for several bodily processes, particularly the formation of haemoglobin. Anemia caused by a lack of iron in the blood is known as iron deficiency anaemia. Adolescents and women who are still menstruating are more prone to this type of anaemia. Blood loss from heavy periods, internal bleeding from the gastrointestinal tract, or donating too much blood can all contribute to this illness [28].

Causes

Growth spikes throughout infancy or pregnancy, Heavy menstrual cycles, inadequate iron uptake Dietary variables (an iron-poor or iron-restricted diet), medicine, and intestinal bleeding (aspirin ibuprofen, naproxen and diclofenac), specific vitamin deficiency (folic acid and vitamin B12), Have renal bleeding red blood cell issues, hookworm infection issues with the bone marrow. Symptoms Lethargy, exhaustion, feeling faint and easily out of breath, headaches,

palpitations, altered taste, sore mouth, and ringing in the ears are only a few of the symptoms (tinnitus) [29].

Management

Treatment of the cause

Diet: Green leafy vegetables, nuts, dates, custard apple, meat, liver Blood transfusion

Iron therapy:

- a. Oral
- b. Parenteral [30]

Discussion

Anaemia (Pandu Roga) can affect persons of all ages, however it is more prevalent in young children as a result of eating an iron-deficient or low-iron diet. Families with low incomes cannot afford a healthy food, and their children may get sick as a result of an unsuitable and unbalanced diet. Pitta is in charge of giving the body its typical colour, but when it becomes vitiated, Panduta (pallor) develops. Pandu Roga is a Pitta pradhana vyadhi. While Pitta is the Pradhana Dosha in Pandu Roga, Vata Dosha also has a significant impact on how Pandu Roga manifests; specifically, Vyana Vayu has a connection to the Samprapti of Pandu Roga. Pandu is a Rasvaha Srotas Vyadhi that causes great suffering in many individuals. Five different varieties of Pandu Roga, namely Vatika, Paittika, Kaphaja, Tridoshaja, and Mridabhakshhanajanya Pandu, have been detailed by the majority of Acharyas in Samhitas. Poor eating habits, such as Mridikabhakshana, eating food that is insufficient in both quality and quantity, and Nidanarthaka Roga, are some of the etiologial factors of Pandu Roga.

Conclusion

A growing number of individuals are being diagnosed with Pandu Vyadhi nowadays as a result of modern lifestyle choices, poor dietary routines, and the usage of contemporary medications. The Pitta Pradhana Vyadhi Pandu, who gives the body its typical colour, is a Varnopalakshita. Patients with low socioeconomic position are more vulnerable than middle-class and wealthy people. The descriptions of Pandu Roga and Chikitsa in Ayurveda literature are extensive. Pregnant ladies frequently acquire the illness. Those who live in urban settings are more likely to contract the disease than those who live in rural and sub-urban areas. Individuals who have experienced Arshas, Asrigdara, or malaria before are more vulnerable to the illness. A doctor must be completely knowledgeable on all facets of Pandu, including Nidan, Roopa, Poorvaroopa, Samprapti, and numerous Chikitsa Yoga, Sadhyaasadhya, Arishtalakshan, etc. from all Samithas, Nighantu, and other literature, in order to cure a Pandu Rogi.

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