A REVIEW ARTICLE ON NIDANA PANCHAKAOF PANDU ROGA (ANEMIA)

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ABSTRACT

Pandu Roga is described elaborately by all Acharyas of Ayurved as a specific disease with its own pathogenesis and treatment. In Pandu Roga there is predominance of paleness all over the body due to RaktaAlpata. Due to its similarity, it can be co-related with Anemia in modern science. Anemia is most common blood disorder, affecting about a third of the global population. Anemia increases costs of medical care and lowers a person’s productivity through a decreased ability to work. It is therefore important to search scientific reason behind the disease. The Anemia is a reduced quantity of red blood cells or haemoglobin which, in turn causes pale skin. This article is based on NidanaPanchak of Pandu Roga from Laghutrai and Brihatrai with all commentaries. The changing lifestyle of human being plays a major role in manifestation of various diseases. Pandu Roga is also one of them. Our faulty dietary habits and lifestyle produces Ama and further Agni Dusht, which causes improper Rasa Dhatu formation which further hampers the Rakta Dhatu formation and leads to Pandu Roga. The detail knowledge of NidanaPanchak of Pandu Roga will help in its diagnosis and management.

Keywords: Ahara, Ama, Anaemia NidanaPanchaka, Pandu Roga, Vihar.

INTRODUCTION

A detail explanation of PanduRoga is found in almost all Ayurved Samhitas. Pandu Roga is known from the Vedic period. This disease was described in ancient Hindu treaties like in Ramayana, Mahabharata, Agnipurana, etc. It is called Pandu Roga because of predominance of Pandubhav (paleness) all over the body. Acharya Charaka described Pandu after Grahami Dosh Chikitsa due to aggravation of Pitta in Grahami and the aggravation of Pitta constitutes a predominant factor in the causation of Pandu¹.chariyaSushruta has mentioned after Hridaroga due to same Samkhya, Samprapti and Chikitsa of Hridaroga like Tikshna, Amla, Katu etc may cause for development of Pandu. Acharya Vagbhata mentioned Pandu Roga after UdariRoga due to same Doshanghnata. All Acharyas explain the word “Pandu” as Shweta, Dhusara, Shvetavabhasa, Pitavabhasa. PanduRogi suffers from decreased blood count, Bala (strength), Varna (complexion), Sneha, Meda and Oja. Patient becomes Nihsara (loss of natural integrity, tone and strength) and Shithilendriya. In this there is vitiation of Pitta Pradhanavatadidosha and Raktdhatu in the body. Rakta gets vitiated by Doshas, mainly by BhrajakaPitta Dosha and create
Pandu Roga. Pandu is described under RasapradoshajaVikara. Upattty of Panduby AmrakoshaA white colour mixed with yellowish tinge. According to Vachaspatyam-Pandu is like whitish yellow colour of pollen grain of Ketaki flower. Acharya GangadharA describes Pandu Varna as Malana Varna. Niruktiof PanduRoga according to our Acharyas, among the different kinds of colours such a Pandu, Harita, and Haridra, Pandu being more common among this so, disease is called as Pandu Roga itself.G Origin of the word Anemia which means lack of blood the name Anemia accurately described this condition as the reduced quantity of red blood cell or Haemoglobin.G Anemia is a blood disorder characterized by abnormally low levels of healthy RBC cells that delivers oxygen to tissues throughout the body. Red blood cell carry oxygen around the body using a protein called Haemoglobin. When Anemia comes on slowly, the symptoms are often vague and may include feeling tired, weakness, shortness of breath, and a poor ability to exercise. Symptoms may occur depending on the underlying causes. Anemia can also be classified based on the size of the red blood cell and amount of haemoglobin in each cell. When cells are small, it is called Microcytic Anemia; if they are large, it is called Macrocytic Anemia; and in normal size, it is called Normocytic Anemia. Anemia is diagnosed on a complete blood count. Four parameters RBC count, haemoglobin concentration, MCV and RDW are measured, allowing others Hematocrits, MCH and MCHC to be calculated. When the cause is not obvious, use other tests, such as: ferritin, serum iron, ESR, transferrin, serum vitamin B₁₂, Haemoglobin electrophoresis, RBC folate level and RFT (e.g. serum creatinine). A bone marrow examination allows direct examination of the precursors to red cells, when the diagnosis remains difficult.

A detailed review of NidanaPanchaka (i.e. Nidana, Purvarupa, Rupa, Upashayaand Samprapti) will be helpful for clear understanding of minute aspects connected to disease. Therefore, in this article NidanaPanchaka of Pandu Roga has been reviewed from Ayurved Samhitas and textbooks.

**Nidanapanchak of Pandu Roga- Nidana (Etiology):** Knowledge of Nidana is of prime importance in the prevention as well as cure of disease. For diagnosis of disease one should know the actual reason for manifestation of disease. Here the Nidana (causative factors) of Pandu Roga is broadly divided in 3 types.

1) **Aharaja Nidana (Dietary Causes)-** Atisevan of Kshara, AmlaLavan, Katu, Kashaya, Aitushna, Tikshan, Ruksa, Viruddha, Nishpava, Mansadi SevantaTila, Tilataila, VidagddhaBhojana, Mriddhakshanam, AsatmyaBhojana may be taken as food items to which and individual is not adopted or suited. It may be considered as sudden change of food style or habit or also as junk food used today, as they are not beneficial.

2) **Viharaja Nidana (Habitual Cause)** - Atinidra, Ativayam, Ativyayaya Atishrama Dushta Raktanigara in Raktarsha, Diwasvapana, Ratrijagarana, Rituvaishmya, SnehaAtiyoga, Vegavrodha, Vegavidhara in Vamana Karma.

3) **Manasika Nidana (Mental Cause)** - Chinta, Bhaya, Krodha, and Shoka Atisevan. Other Hetu includes BijadushhtiRakta, Mamsa and Medaare Matruj Avayava therefore any Dushti in Matruj Bhaga can cause PanduRoga.

**Nidanarthakara Roga:** In Ayurvedic literature Pandu Roga has been indicated either as a symptom of any disease or as Upadrava Rupa. So, all these diseases can be considered as Nidanarthakara Rogas of Pandu. These are RaktaKshaya, RaktaSrava, Raktaarsha, RasaPradoshajaRoga, Kaphaja Arsha, Raktabuda, Raktapradara, Grahani, JeernaJwara, PunravartakaJwara, Plhodara, VyayayaShoshi, Samipatodara, Shotha, SantarpanjanayaRoga, Upadrava of Rakta Pitta, Vedhan of Raktavahi Dhamni, YakritaPliha Vedha.
SampraptiChakra³:  
Tridosha Prakopaka-Pitta Pradhana  
Vata throws Pitta in Hrudaya  
Pitta causesRasavahaSrotasDushti  
Rasa Pradoshaand Rasa Vidaha  
Pitta and Vidaadhga Rasa travels throughout Sharira  
Dushti of Kapha,Tvaka, Rakta, Mamsa  
Ashraya of Dusha between Tvaka and Mamsa  
A layer of Doshas in Mansadhara Kala  
Avarodha to Bhrayaka Pitta  
Expressions of various Varnas on Twacha  
Pandu  

SampraptiGhataka:  
• Dosha – Pitta Pradhana Tridosha, mainly Sadhaka Pitta.  
• Dushya – All Dhatu and Oja.  
• Srotas – Rasa, Rakta  
• Agni – Dhatwagni  
• Srotadushti- Sang, Vimargaman  
• UdbhavaShhana – Amashaya, Hridayaya.  
• Sanchara- SarvaSharirra  
• VyaktaSthana – Tvaka  
• Swabhava – Chirkari  
• Rogamarga – Madhyam.  

Poorva Rupa¹: These are the symptoms which are produced in the body before the arrival of the disease when there is accumulation of Dosha and Dushya in the body they produce some sign and symptoms. In Pandu Roga Premonitory Sign and Symptom are as follows-TvakaSphotana (cracking of the skin), Shhivana (spitting of sputum), Gatrasada (general body malaise), Mridabhakshana (liking for mud intake), Prkshana KutShotha (swelling over eyelid) Vinmmuratpita (yellowish discolouration of faecal matter and urine), Avipaka (indigestion), Hridaya Span-
dana (palpitation of heart), Rukshata (roughness), Swedabhava (absence of sweat), Shrama (exhaustion).  

Rupa (Samanya Lakshana)¹⁰: These are signs of disease. After aggravation of Doshas and formation of the disease the sign of disease is seen. General sign and symptoms of Pandu Roga are as follows-KarnaKshveda (tinnitus), Durbalata (debility), Annadwesha (aversion towards food), Shrama (exhaustion), Bhrama (giddiness), Gatrasula (body ache), Jwara (fever), Shwasa (dyspnoea), Gaurava (heaviness), Aruchi (anorexia), Shunakshikuta (swelling over orbit), Harita (complexion become greenish), Shirmaloma (hair fall), Hataprabh (loss of lustre), Shishirdweshi (dislikes cold things), Nidralu (over-sleep), Spitting, diminished speech, Cramps in calf muscles, Patient suffers from pain in waist, thighs and legs, Patient feels exhausted while climbing stairs.  


1) Vataja Pandu- Due to consumption of VataPrakopaka diet and activities leads to aggravation of Vata and manifest Vataja Pandu Roga, produces Lakshana (features) like RakshaAnga, Angamarda, Toda, Kampa, Parshavruja, Shirorruja, Varchashosha, MukhaVairasya, Shopha, Anaha, BalaKshaya.  

2) Pittaja Pandu- Pitta is already disturbed in Pandu Roga, in such circumstances if patients consume Pitta aggravating Ahara and Vihara and having Pitta Prakriti then Pitta exacerbates. Due to intake of Nidana, Pitta aggravates in excess and brings abnormality in Raktaand manifest Pittaja Pandu Roga. Lakshana (features) – Peeta Harita Varna, Jwara Daha, Trushna, Murcchha, Pipasa, Pita Mutra, Svedana Sheeta Kamita, Annam Abhinandati, KatukaAasya, Amla Udgarra, Vidaha, Mukha Daurgandhya, BhinnaVarchas, Daurbalyama.  

3) Kaphaja Pandu- Excessive consumption of Kapha Prakopak dietetics and activities leads to development of Kaphaja Pandu Roga. Lakshana (features) -

4) Sannipataja Pandu- If a person consumes all kinds of food substances without following rules and regulations of Ahara leading to exacerbation of all the three Dosha sand manifest Sannipataja Pandu Roga. Lakshana (features) - All the symptomatology of Tridosha appears in this disease and it is extremely intolerable because it develops complications.

5) Mrid Bhakshana Janya Pandu13- One who consumes mud (clay) habitually may be considered as either oral ingestion or use of articles contaminated with mud as unclean hands and fingers or as improperly washed vegetables or eatables causes aggravation of either Vata or Pitta. Kashaya Rasa of Mrid aggravates Vata, Usara Rasa of Mrid aggravates Pitta and Madhur Rasa of Mrid aggravates Kapha. Due to its insuccousness it brings dryness in the Rasadi Dhatu. Undigested mud fills of Srotas and brings obstruction in them as a result loss of function of senses, strength and lustre, energy and Ojas. This type of PanduRoga further deteriorates strength, complexion and power of Agni. Lakshana (features) of Mrid-Bhakshana Janya PanduRogas are as follows-Shuna Ganda AkshiKuta (Oedema around cheek, eye sockets and eyebrows), oedema in the feet, umbilical region and genital parts, KrimiKostha (development of intestinal worms), Atisara (diarrhoea associated with blood and mucous).

Upadra (Complications): If the disease is not treated in early stage, the following complications may arise- Aruchi (anorexia), Pipasa (thirst), Chhardi (vomiting), Jwara (fever), Shirorija (headache), Agnisada (dyspepsia), KanthaShotha (oedema in throat), Abalatva (debility), Murchha (fainting), Hridaya Pi- dana (discomfort in the region of heart).

Sadhyasadhyata (Prognosis): The signs, symptoms and other conditions indicate incurability of Pandu Vyadhi becomes chronic. Kharibhuto- When excessive dryness has been appeared in the patient.

Kalaparakarshahuna- When the patient is afflicted with oedema owing to chronicity of this disease. Piti- tani Pashyati- When the patient gets yellow vision. BadhaAlpa Vita- When the patient is fully or partially constipated. SakaphaHaritaAtisara - When the patient passes loose stool, which is green in colour and mixed with mucus. Deena- when the patient feels exceedingly prostrated. Shwetatidigdhanga- When the body is exceedingly white as if is smeared. When the patient is exceedingly afflicted with Chhardi (vomiting), Murchha (fainting), and Trishna (morbid thirst). AsrikaKshaya- when the body of the patient becomes pale on account of loss of blood. If patient is suffering from swelling in the extremities and emaciation in the trunk or swelling observed in extremities, trunk, anus, penis and scrotum.

Upashaya and Anupashaya14:

Upashaya/Pathya: Rice prepared by old Shali, food prepared by Purana Yava and Godhuma should be prescribed with Yusha and Mudga, Masura and Jangala Mamsa. Specific medicines are to be administrated depending on the predominance of Dosas. Pancagavya Ghritas, MahatiktaGhritas and Kalyanaka Ghritas are useful for the purpose of Snehana therapy. Arishta prepared from Guda, Madhu and Shankara, Asava prepared from Mutra and Kshara. JangalaMamsa fried with fat and processed with Amalaki cooked with Kola and the recipes prescribed for Shatha should be taken by the patient of anaemia. Yamana, Virechana and Dagdha Karma through below the naval, in the forehead, in the bottom of the hands, in the joints of the legs, in the armpits and around the middle of the breast should be done. The patient should take the following edibles –Purana Yava, Godhuma, Shali, Mudga, Adhaki, Masura, Yush, Jangala Mamsarasa, Patola, Kushmanda, Kadalipha- la, Jivanti, Ikshu, Guduchi, Tanduliyaka, Punarnava, Dronapushpi, Lashuna, dwaya, Pakva Amra, Bimphala, Kadakshringi, Matsya, Gomutra, Amala, Takra, Goghrita, Tiltaila, Sauvira, Tushodaka, Mahana, Shweta Chandana, Haldi, Nagkeshara, Yakavshara, Lauhabhasma, Keshara, Kashaya Rasa Pradhaana Dravya.

Anupashaya/ Apathya: Following etiological factors should be avoided in Pandu Roga. RaktaKshaya,
Dhumrapana, Yamana Vegadharana, Swedana, Maithuna. Pandu Rogi should avoid consumption of PatraShaka, Atyambupana, Tiladi Khali, Tambula, Sura, Mitti, Divashayana, spicy and salty foods, food items that are heavy to digest and cause burning sensation etc. Patient should avoid staying around fire, sun, hard work, exercise, anger, suppression of natural Vegas.

DISCUSSION

Causative factors of Pandu are widely described in Samhitas. According to Acharya Sushruta Rakta gets vitiated by Diwasvapa, ViruddhaBhojana and Krodha. He has also mentioned that Krodha, Shoka, Bhaya, Vidagdha Anna Sevana, Ati Maithuna and Tila Tailand Pinyaka leads to vitiation of Pitta Dosha. Ativyayama, Ratrijagarana, Nidranasha, Ativyavaya and AtiAdhavagamana leads to Vata Prakopaka. Acharya Charaka has mentioned Pandu Roga caused by suppression of Chhardi, Vegavarodha, Viruddha Anna Sevana and of excessive use of Ati Amla and Lavana Rasa. Acharya Charaka has emphasised bad effect of Chinta, Bhaya, etc. on digestion. All these causes improper digestion of food which leads to improper Rasa Dhatu formation and further hamper Rakta Dhatu, Mamsa Dhatu formation and so on and thus leads to Pandu Roga. Nidanarthakara Roga also play important role as cause of Panduroga according to various classical texts. Diseases like Raktakshaya, Raktati pravartana, Raktarbuda, Raktarsha, Raktapradara, Yakrita pithavedha etc. condition is directly or indirectly related with Rakta Dhatu Kshaya which further results in all Dhatu Kshaya. While Punaravartaka Jwara Grahani, Jeernajwara, Shotha, Udararogga, Rajyakshma etc. involving vitiation of Agni and Ama production, which in next step obstructs the Dhatuvaha Srotas which leads to disturbance in Dhatuposhan Krama and ultimately produces Pandu. Also, Acharya Charaka has mentioned Pandu as a Santar-panoiththa Vikara, for which Samprapti may be same as described above. Only difference is, in this case obstructing factor may be Kapha as it is related with Santarpana. The features described as Purvarupa of the disease are some of the general feature itself as Hridspandana (palpitation), Shrama (fatigue), Angasada and Gatrasada (weakness). Some Purvarupas are related to features of digestive system or Agni as Avipaka, Aruchi, Alpavahnitva, Vidamutrapitata etc., indicating that Agni is getting disturbed here and production of Mala SwarupaPitta is increasing here resulting in the increased yellow coloration of urine and stool. Raukshya and Twaksputhita are the features of Raktaikshaya which are developing here. There is vitiation of Agni resulting in features of Mandagni and decreased production of Rakta Dhatu with increased production of Mala-Pitta. Sthithvanadhiyka is a feature described in the manifestation of Ama. Mridabhakshana is also the aetiology of the disease and viewing it is an individual could well forecast the future development of worm and anaemia is an individual. This is also a symptom found present in iron deficiency anaemia as pica or unusual cravings for eatables. Sweda-abhava is feature which interpreted by commentators as Vyadhiprabhava, meaning the effect of disease itself. In Rupavastha, there is also the simultaneous involvement of other Dhatus of the body resulting in their decline in quality as well as quantity wise. It is appealing to note that though the disease is Pitta predominance, the features developing also here includes Shishira Dwesha which is neither a feature of Raktakshyaor Pitta Vridhi. Acharya Sushrutahas classified Pandurogagain 4 varieties, but Acharya Charakahas mentioned one additional variety of Panduroga that is MridaBhakshanjanya Pandu. Acharya Sushruta has mentioned that Pandu Bhavais caused by vitiation of Twaka through the vitiated Rakta one who indulgence in Ahita Ahara Vihara. Acharya Vagbhata has mentioned the Samprapti given by Acharya Charaka. Thus, the pathology of Panduroga is mainly concerned with vitiation of Pitta which in turn vitiates the Rakta, leading to condition of Pandubhava. So, Pitta being main factor in the causation of Panduroga, all the fivefold functions of it are affected more or less, but as the main seat of the disorganization is the Rakta and complexion of body, the Kanjan a and Bhrajan function of Pitta is to bear the brunt. Thus, Pitta Dosha takes leading part in the production of Dhatusaithilya and Dhatugaurava.
This leads to Balakshaya, Varnakshaya and Ojakshaya. Ultimately, the Panduroga is stated to be afflicted with Rakta, Vata, and Ama production which leads to Mandagni and change in complexion of body i.e., Panduta. Vitiation of Kapha Dosha is responsible for Gaurava, Nidraluta, Mandagni, Alasya, Alpavaka. The symptoms such as Aruchi, Jwara, Panduta, Gaurava and Tandra are indicative of Rasadhatu Dushti. Angamarda indicates the involvement of both Rasa and Rakt Dhatu. Karshya is indicative of Mamsa Dhatu Dushti. Atisveda and Svedabhava are suggestive of involvement of Twaka, Mamsa Dhatu and Medo Dhatu. Shirnalomata is an important indicative of Asthidhatu Dushti. The loss of lustre and debility are suggestive of depletion of Oja. Nidanaparivarjana is the best treatment for any disease. This principle also can be applied in the Pandu which will be the first step in the treatment of disease. Further as per condition of Doshas, treatment should be applied. As mentioned in the early pages of disease part, Pandvis a Pitta predominant Tridoshaja Vyadhi. Chief pathogenesis taking place during Sanpraptis Srotorodha which generates disturbance in Dhatu-poshana and lastly Dhatukshaya.

CONCLUSION

Nidana Panchak is a great tool for diagnosing a disease at various stages, in which disease a manifest itself and every stage has its own importance in the treatment and its effective prognosis. From this article Majority of Nidanas is Pitta and Rakta Prakopaka. These Nidanas causes Mandagni and Rasavaha Sroto Dushti which further causes less production of Poshaka from the Rasa Dhatu and depletion of Rakta and ultimately Rakta Alpata. In second type of pathogenesis Prakupita Pitta of Hridaya expelled through Dashan Dhamani by powerful Vata which further vitiate Vata, Rakta, Kapha, Twak and Mamsa and results as Pandu Varnata and ultimately Pandu Roga. NidanarthakaraRoga also play important role as cause of Pandu Roga. Disease which are directly and indirectly related with Rakta Dhatu Kshaya which further leads to all Dhatu Kshaya. Five types of Pandu Rogamay be clearly differentiated based on the predominance of Doshas. These are Vataja Pandu, Pittaja Pandu, Kaphaja Pandu, Sannipataja Pandu and Mrittikabhakshana- Janya Pandu. In acute stage all Pandu Roga are curable or manageable but in chronic stage they are incurable. So Pathya and Apathya should be followed in early stage. Each component of Nidana Panchak individually as well as collectively helps in diagnosis of disease.

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