AETIO-PATHOGENESIS OF PANDU ROGA AND ITS PREVENTIVE APPROACHES- A REVIEW ARTICLE

Rani Khushboo1*, Kumari Rinku2 and Gupta Poonam3

1,2MD Scholar, Postgraduate Department of Rog Nidana and Vikriti Vigyan, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, Najafgarh, New Delhi, India.

3MD Scholar, Postgraduate Department of Rachana Sharir, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, Najafgarh, New Delhi, India.

ABSTRACT

Pandu has been known to the mankind since Vedic period. It is called Pandu roga because of predominance of paleness all over the body. In Ayurveda, Pandu Roga is considered as a specific Nidana, Purvarupa, Rupa, Samprapti and Chikitsa. The general nidanas of Pandu roga have been described by all the Acharyas. No disease happened without nidanas. Identification of nidanas help in proper diagnosis and exact measure of morbidity of doshas, the nature of insult occurring in the body and the status of the body. Hence, aim of the study, for this one should have the comprehensive knowledge of various etiological factors responsible for Pandu roga and aetiopathogenesis of Pandu Roga and its preventive approaches.

KEYWORDS: Ayurveda, Pandu Roga, Nidana, Aetiopathogenesis.

INTRODUCTION

Ayurveda is a Science of life which have the purpose to ensure a healthier and longer life to the humanity. It gives the ideas to make lifestyle better by giving the description of Dincharya (daily regimen), Ritucharya (Seasonal Regimen), rules of dietetics etc.

In Ayurvedic text Pandu is used for abnormal discoloration of the body. The peculiar color presentation of the patient has been described by Acharyas i.e. the color of the patient is like ‘Ketakidhulisannibah’ which is similar to the combination of white and yellow in a particular portion.11 In Ayurveda, Pandu Roga is considered as a specific Nidana, Purvarupa,
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Rupa, Samprapti and Chikitsa. The general Nidanas of Pandu Roga have been described by all the Acharyas. The day-to-day advancement in each and every aspect of life style has made the life very hectic and full of stress. This is the reason why people have no time for themselves, even shifted their food habits to fast food, having less nutritional value. The main features of Pandu Roga is Pandutva.[2] According to Acharya Charaka, it is one among the Rasvaha Srotodusti and Acharya Sushruta has mentioned it as Raktavaha Srotodusti.[3,4] The signs and symptoms of disease Pandu, closely resembles with Anemia if it is critically examined. It presents symptoms like fatigue, loss of appetite, weakness, breathlessness, pallor of the skin and mucous membrane.

MATERIALS AND METHODS

Etiology

These etiological agents as mentioned by the Acharyas can be classified into following categories[5,6]

1. Aaharaja Hetus
2. Vihraja Hetus

<table>
<thead>
<tr>
<th>Aaharaja Hetus</th>
<th>Vihraja Hetus</th>
<th>Mansika Hetus</th>
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</thead>
<tbody>
<tr>
<td>• Ati Amla (excessive use of sour foods)</td>
<td>• Ati Vyayama (excessive physical exercise)</td>
<td>• Kama (excessive think about sex)</td>
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<tr>
<td>• Ati Lavana (excessive use of salt)</td>
<td>• Ati Vyavaya (excessive sexual indulgence)</td>
<td>• Chinta (worrying in excess)</td>
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<td>• Ati Madya (use of alcohol in large amounts/daily usage)</td>
<td>• Ati Divaswapna (sleeping during the day)</td>
<td>• Bhaya (fear)</td>
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<td>• Ati Mrida (eating Mud/Pica)</td>
<td>• Vega Vidharana (holding of the natural urges especially Chhardi)</td>
<td>• Krodha (anger)</td>
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<td>• Ati Teekshna (consumption of very spicy items in large amounts)</td>
<td>• Ritu Vaishamya (not following the seasonal regime)</td>
<td>• Shoka (grief)</td>
</tr>
<tr>
<td>• Kshara ati Sevana (excessive use Kshara)</td>
<td>• Pratikarma Vaishamya (not performing the cleansing procedures of the body properly and not following the Pathya regimen as advised)</td>
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<td>• Ushna ati Sevana (excessive use of hot substances)</td>
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<tr>
<td>• Viruddha bhojana (use of mutually contradictory foods)</td>
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<tr>
<td>• Asatmya bhojana (use of food which one is not used to)</td>
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<tr>
<td>• Vidagdha bhojan (use of food which is excessively cooked)</td>
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<td></td>
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<tr>
<td>• Usage of Nishpawa (sema)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Masha (Phaseolus mungo Linn)</td>
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<td></td>
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<tr>
<td>• Pinyaka (the remnant after extraction of oil)</td>
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<tr>
<td>• Tila taila (Sesamum indicum oil)</td>
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Pathogenesis

According to Aacharya Charaka Pitta dosha aggravates due to prolonged acceptance of predisposing factors and takes abnormal seat at the heart. The heart being the prime centre for the circulation of Rasa dhatu and Rakta dhatu, aggravated Pitta circulates through it and reaches all over the body. Aggravated Pitta also further vitiates Rasa dhatu to create heaviness and lethargy in the body. This event results in loss of natural color, glow of the skin as well as loss of body strength. Kapha, Vata, Rakta(blood), Mamsa(flesh), and Twaka (skin) are the other major contributing components in the Samprapti of Pandu. Various morbid shades of discoloured skin are observed on the body. According to the prevailing dosha in the Samprapti of Pandu. Pale, whitish discoloration of the skin is the obvious shade observed.

Vitiation of Rasa dhatu becomes further cause for malformation of Rakta dhatu to result in its depletion. This ultimately results in loss of body strength and onset of fatigue. Abnormal Rasa dhatu is the base cause for depletion of Rakta dhatu and thus for onset of the disease.[7,8]

Pathogenesis of Pandu Roga on the basis of Kriyakala

Acharya Susrutha, described mainly six stages for the successive manifestation of the disease i.e. Sanchaya, Prakopa, Prasara, Sthansamshraya, Vyaktavastha and Bhedavastha. In Sanchayavastha of Pandu Roga, there is accumulation of Doshas (mainly Pitta) at their own sites, due to intake of the various described Nidanas. In stage of Prakopavastha, it is of two types – Chaya and Achaya Prakopa. In Pandu Roga pathogenesis, it is mainly the Chaya Prakopa of Pitta dosha. Pandu occurs as a result of excessive blood loss in Achaya PrakopajanyaVyadhi. In stage of Prasaravastha, there is the description of the aggravated Pitta located in the Hridaya being forcefully propelled by the Vata entering into the ten Dhamanis and circulating in the whole body. In stage of Stphansamshrayavastha in which the vitiated and circulating Pitta lodges in between the Twak and Mamsa and vitiates the Kapha, Vata, Rakta, Twacha and Mamsa presenting with the Purvarupas. In next stage of Vyaktavastha, the process of Dosha – Dushya Sammurchchana is completed, resulting the manifestation of the specific features i.e. Panduta or Haridra or Harita Varna in the skin. Final stage of Bhedavastha is defined as the stage of chronicity of the disease in which it becomes incurable or difficult to treat. So we can say that the knowledge of kriyakala is highly essential to frame disease control and prevention strategy.[9]
Diagnostic Approaches of *Pandu Roga*

**Method of Enquiry**[10]

1) Enquiry into food habits
   - Whether he/she is in habits of *Visamasana*
   - Whether he/she is in habit of *Kshara, Lavana, Tila-pista Ahara Sevana.*
   - Whether he is suffering with *Manasika Vikara* like *Kama- Krodha-Chinta* etc.
2) Intake of any drugs
3) History of bleeding
   - Whether the patient is suffering with *Ardra Arsas*
   - Whether the patient is suffering with *Raktapradara* (in female)
   - Whether the patient is suffering with *Sonita chardi or Sthivana*
4) Enquire whether the patient suffering with *Kamala, Sotha, Arsas, Raktapitta, Grahani, Udara roga* or any other disease.

**Differential Diagnosis**[11,12]

<table>
<thead>
<tr>
<th>Vataja Pandu</th>
<th>Pittaja Pandu</th>
<th>Kaphaja Pandu</th>
<th>Mridbhakshanajanya Pandu</th>
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<tbody>
<tr>
<td><strong>Krishna Panduta</strong> (Complexion accompanied with blackishness of skin)</td>
<td><strong>Peetabha</strong> (Pale yellow complexion)</td>
<td><strong>Gaurav</strong> (Heaviness)</td>
<td><strong>Shuna ganda, akshikuta, bhru</strong> (Swelling in the cheeks, eyelid and eyebrows)</td>
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<td><strong>Rukshata</strong> (Ununtuousness)</td>
<td><strong>Haritabh</strong> (Greenish complexion)</td>
<td><strong>Tandra</strong> (Drowsiness)</td>
<td><strong>Shunna pannabhimehanah</strong> (Swelling in feets, umbilicus region, genital)</td>
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<td><strong>Aruna angata</strong> (Reddish discoulouration)</td>
<td><strong>Jwara</strong> (Fever)</td>
<td><strong>Chhardi</strong> (Vomiting)</td>
<td><strong>Krimikoshtha</strong> (Worm infestation)</td>
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<tr>
<td><strong>Angmarda</strong> (Malaise)</td>
<td><strong>Daha</strong> (Burning Sensation)</td>
<td><strong>Praseka</strong> (Salivation)</td>
<td><strong>Atisara</strong> (Loose motion)</td>
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<tr>
<td><strong>Ruja</strong> (Pain)</td>
<td><strong>Trishna</strong> (Excessive Thirst)</td>
<td><strong>Lomaharsha</strong> (Horripilation)</td>
<td><strong>Saasruk kaphanvitam</strong> (Stool being associated with blood &amp; mucus)</td>
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<td><strong>Toda</strong> (Pricking Pain)</td>
<td><strong>Murchha</strong> (Fainting)</td>
<td><strong>Murchha</strong> (Fainting)</td>
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<td><strong>Kampa</strong> (Tremor)</td>
<td><strong>Peeta Shakrita</strong> (Yellow Stool)</td>
<td><strong>Bhraama</strong> (Vertigo)</td>
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<tr>
<td><strong>Shiro Ruja</strong> (Headache)</td>
<td><strong>Peeta Mutra</strong> (Yellow urine)</td>
<td><strong>Klam</strong> (Mental fatigue)</td>
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<td><strong>Parshva Ruja</strong> (Pain in the side of the chest)</td>
<td><strong>Daurganghyya</strong> (Foul smell out of mouth)</td>
<td><strong>Shwas</strong> (Breathlessness)</td>
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<tr>
<td><strong>Asya Vairasya</strong> (Tastelessness)</td>
<td><strong>Bhinna Varcha</strong> (Loose motion)</td>
<td><strong>Kasa</strong> (Cough)</td>
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<td><strong>Shopha</strong> (Oedema)</td>
<td><strong>Swedana</strong> (Excessive Sweating)</td>
<td><strong>Alasya</strong> (Laziness)</td>
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<tr>
<td><strong>Anaha</strong> (Gaseous distension)</td>
<td><strong>Katukasayata</strong> (Pungent taste in mouth)</td>
<td><strong>Aruchi</strong> (Anorexia)</td>
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<tr>
<td><strong>Balakshaya</strong></td>
<td><strong>Amlodgara</strong> (Sour eruption)</td>
<td><strong>Shwayathu</strong> (Oedema)</td>
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<td></td>
<td><strong>Vidaha</strong> (Burning)</td>
<td><strong>Madhurasya</strong> (Sweet taste in the mouth)</td>
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<td></td>
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<td><strong>Vakswaragraha</strong> (Obstruction in speech and voice)</td>
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<td><strong>Shukla mutra</strong></td>
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Preventive approaches of Pandu Roga

Dietary and behavioural regimen[13,14]

Pathya

Wholesome regimen

1) Intake of light, easy to digest type of food for eg. old rice, barley, green gram.
2) Meat soup of wild animal and birds
3) Diet rich in nutritional value
4) Spinach, beetroot, carrot, dates, cherry, cranberry, grapes, mango, apple.

Apathya

Unwholesome regimen

1) Intake of hard to digest, salty, sour, spicy, hot, sharp type of food
2) Intake of peas, sesame cakes, red chilies, sour food items.
3) Physical exertion or exercise.
4) Acceptance of heat in any form
5) Intake of alcohol and smoking

Yoga Therapy[15]

Pranayama

- Ujjayi (energy-renewing Pranayama)
- Nadi Sodhana (alternate breathing)

Asanas

- Paschimottanasanas (stretching the back and legs)
- Ardhamatsyendrasana (Simplified version of Yoga Matsyendra Posture)
- Sarvangasana (shoulder-stand)
- Sirhasana (Head-stand)
- Shavasana
DISCUSSION

Aaharaja Nidana

The various Nidanas of Pandu Roga have been described in various Ayurvedic texts have changed in forms of today lifestyle. Amla Aahara may be taken today as foods with predominance of tomatoes, sour curd, lemons, citric acid, pickles, food with preservatives as jams, cold drinks, sauces, Imli etc. Lavana Aahara may be taken as food with excess salts or with salt added from above. Madya may be taken as alcoholic beverages as rum, beer, whisky, vodka etc. Kshara may be taken as soda. Ati teekshna Ahara may be taken as excessively spicy items as Chole, Chats, Pakore, Panipuri, Chaps, Razma, spicy vegetables and other dishes. Ati Ushna may be taken as food articles which are either very hot as tea, coffee etc. or which increase the metabolic activities of the body or also as very hot temperature. Mrittika Bhakshana may be taken as either oral ingestion of mud or use of articles contaminated with mud as unclean hands and fingers or as improperly washed vegetables or eatables. Viruddh Bhojana may be taken as mutually contradictory foods. Asatmya Bhojana may be taken as food items to which an 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. The majority of aetiological agents described for Pandu Roga which are listed, causes Mandagni and the Pitta vitiating Nidanas which mostly are also Rakta vitiating factors. Due to Mandagni digestion will not be proper which produces Ama. Ama will hinder nutritive part of the food which will not be absorbed properly.

Viharaja Nidana

Etiological factors related to Vihara (lifestyle) are –Ativyayama means excessive exercise or physical stress. Charaka has mentioned Ativyavaya (excessive indulgence in sexual act) as one of the common cause for development of anemia. The excessive indulgence in sexual act inhibits or disturbs the production of various hormones especially testosterone, role of which has been proved valuable in erythropoiesis.

Acharya Sushruta has mentioned Ativyayama as one of the causative factors in the development of Pandu which can be explained as: If any person is in habit of performing severe exercise, the metabolic activity of the body increases, the bio chemical reactions are hastened, resulting more production of carbon dioxide and water, liberation of energy which is utilized for the activity of body during exercise. Thus, it is seen that there is loss of energy from the body during severe exercise and if one does not take adequate amount of nutrition to
compensate loss then naturally the requirements will be obtained from the tissue of the body itself and ultimately, there will be general degeneration leading to Dhatu Kshaya and ultimately Ojas Khsaya. Diwaswapna, causes Prakopa of all Doshas and Agni Daurbalya leads to Ama formation and further Agni Dushti which causes improper Rasa Dhatu formation, which further hamperes the Rakta Dhatu formation and leads to Pandu Roga.\(^{[19,20]}\)

**Manasika Nidana**

Acharya Charaka has emphasised bad effect of Chinta, shoka, Bhaya, etc on digestive process. Means, wholesome foods taken even in proper quantity don't get properly digested when the individual is afflicted with grief, fear, anger, sorrow and inconvenient bed for sleep. So we can say that Chinta, Bhaya etc causes improper digestion of food.\(^{[21]}\)

Due to Kaam, Shoka, Bhaya vitiation of Vata & due to Krodh vitiation of Pitta Dosha which leads to improper Rasa Dhatu formation and further hampers Rakta Dhatu, Mamsa Dhatu formation and so on and thus leads to Pandu Roga.\(^{[22]}\)

**Pathogenesis**

In the pathogenesis of Pandu Roga, all tissues or Dhatus of the body are affected. Initially, there is mainly qualitative depreciation of these Dhatus with heaviness and sluggishness in these tissues and their functions; later, a loss of the essence of the dhatu occurs (Nihsaarata) along with the depreciation of the qualities of Ojas. Quantitative reduction of only two Dhatus has been described-Rakta and Medas. This description probably relates to the nutritional function of Rakta Dhatu towards other Dhatus as stated by Acharya Sushruta-Tesham Kshaya Vridhhi Shonita Nimmitte. In the chronic state of the disease, the Nihsarata may also be affecting the quantity of the Ojas. This is the reason why features such as Gatra saada, Shrama, Guruta, Tandra, Vata Shopha, Varma Bheda, Murchha, Tamah Pravesh have been described as the features of Pandu Roga.\(^{[23]}\)

**CONCLUSION**

Pandu Roga is a Pitta pradhanvyadhi, Pitta dosha which in turn vitiates Rakta and other Dhatus. Pitta is responsible for normal color of the body but when it gets vitiated, Raktadusti will occur which create Panduta i.e. loss of complexion of skin. Pathya Aahara vihara and other preventive approaches help to improve digestive power which lead to proper Dhatu Poshana and helps to improve the symptom of Pandu Roga.
REFERENCES


