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Review Article

A LITERARY REVIEW ON *SAMPRAPTI* OF *PANDU ROGA*.

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Abstract-

In my view *Pandu* is such a disease which is probably one of the 5 of most common diseases, have great prevalence with almost 30% of world population affected, large capacity to influence other health factors but most neglected in comparison to those. The clinical condition of this disease has a lot of similarities with the sign and symptoms of Anaemia. Although it is commonest where there is malnutrition or nutritional deficiency but it is also found in overnourished people. But pathogenesis of Anaemia and *Samprapiti* of *Pandu* are not explained in same format. So, in this condition we tried to find out the point of similarity in explanation of pathogenesis of *Pandu* in Ayurvedic and modern medicinal

system. Because in Ayurvedic classics *Pandu* is mentioned as a *Santarpanjanya vikara* i.e. a disease due to overnutrition but not a disease due to *Apatarpan* i.e. malnutrition.

Key words: *Pandu*, Anaemia, *Santarpanjanya vyadhi*

Introduction:

Pandu as a disease entity, described in ayurvedic texts bears great resemblance to the clinical features of Anaemia¹. In ayurvedic texts the description of *Pandu* is available in two forms i.e. *Pandu* as a disease and *Pandu* as a sign of certain disease. On the other hand, Anaemia is probably most prevalent nutritional deficiency disorder in the world². In this disease there is pallor of the skin due to qualitative or quantitative reduction of RBCs in blood³. In India around 50% of population is affected by Anaemia. Not only that, the scenario is more severe as 56% of women are affected by it and 20-40% maternal death occurs due to this disease⁴.

Though India's ranking in World Hunger Index is not good but the fact may not be like that 50-56% population is malnourished or hungry. Here the question arises – is that malnourishment or nutritional deficiency is the genuine cause of Anaemia or any other fact is hidden behind it. Driven by this thinking we reviewed Ayurvedic classical texts and modern medicines also to find the genesis of this disease entity with the aim to control its manifestation.

Historical Review:

The term *Pandu* was quite familiar from literatures of Vedic period. It is described in *Mahabharata*, *Ramayana*, *Yogavashishtha*, *Garudpuran* and *Bouddhik* literatures. The great *Acharyas* of Ayurveda *Charak*, *Sushurut*, *Madhavkar*, *Vagbhatt*, *Kashyap*, *Bhel*, *Harit*, *Sharangdhar*, *Bhavmishra*, *Vangsen* has describe the *Panduroga* and its treatment. The description of *Pandu roga* is also found in anglo section_Igyptian, Greek, Roman and Chini *chikitsa pathy*⁵.

Etymology:

Pandu word is formed by *mooldhatu* “*padi-pashi*” with “*kru*” *aspratyaya*. This *mool dhatu* belongs to 10th *gana*. *Pandu* is a *varna paraka* (i.e. the name indicating the color) and *pad-pashi* means *nashane* i.e. destroy⁶.

On the other hand, the Aneamia is derived from two Greek word *an-*means without and *haima-* means blood. Aneamia means a condition in which there is a deficiency of red cells or of haemoglobin in the blood. Resulting in pallor and weariness⁷.

Causative factors

Pandu

In *Charak Samhita Sutra sthana*, the disease *Pandu* is mentioned as *santarpanjanya vikar*. That is a disease due to over nutrition⁸ and in *Vividhashitapitiya adhyaya* it is mentioned as *rasapradoshaja roga*⁹. Again

in same Samhita *Pandu roga chikitsa*, it is mentioned that the disease manifest due to *prakopa* or aggravation of *pitta pradhan dosha* in *dhatu*s; by indulgence in alkaline or acidic, salty, very hot, antagonistic and unwholesome diet; by habitual indulgence of legumes, sesame oil ; by restoring to day sleep, physical exercise and sexual congress while the food is still undigested; by irregular performance of the quinary purification procedures; by abnormality of the seasons and by suppression of natural urges or in persons whose mind have been affected with passion, anxiety, fright, wrath of grief. The *Pitta* seated in the heart gets provoked and with the help of *vayu* it is spread it all over the body threw 10 *dhamani* and takes shelter in between *twak* and *mamsa* and produces *Pandu*, *haridra*, *harit* color of skin¹⁰.

In *Sushrut Samhita* it is mentioned that due to excessive intake of acidic, salty food, alcohol, mud or excessive indulgence of day sleep or *tikshna dravyas*, the blood gets vitiated and mix the skin *Pandurabha* that is pale¹¹.

Anaemia

It may develop due to increased blood loss and impaired red cells production due to cytoplasmic maturation defects caused by deficient haem synthesis or globing synthesis or nuclear maturation defects caused by Vit. B₁₂/folic acid deficiency, defect in stem cells proliferation and differentiation, bone marrow infiltration, Congenital cause or due to increased red cells destruction cause by extrinsic or intrinsic factor. The major cause of Anaemia

is iron deficiency¹² that may occur from lack of intake of iron rich food or deficit iron absorption mechanism.

Prodromal features

According to *Charak Samhita* its premonitory symptoms are cardiac palpitation, dryness, anhidrosis and fatigue¹³.

According to *Sushrut Samhita twak sphotanam, shthivan, mridbhakshaneccha, prekshankuta shotha, mutra peetata, purisha peetata, avipaka*¹⁴.

Cardinal features.

According to *Charak Samhita* after the manifestation of the disease, the following symptoms emerges- patient become afflicted with tinnitus, loss of gastric fire, weakness, asthenia, repugnance for food, fatigue, giddiness, pain in the limbs, fever, dyspnea, heaviness and anorexia.

The onset of iron deficiency Aneamia is generally slow. Usual symptoms are weakness, fatigue, dyspnea on exertion, palpitation and pallor of skin, mucous membranes and sclera. Older patient may develop angina and CCF. Patients may have unusual dietary carvings such as pica¹⁵.

Classification

According to *Acharya Charak, Vagbhatt, Madhavkar, Sharngdhar, Yog Ratnakar, Kashyap* all have mentioned five types of *Pandu*-

1. *Vataja*
2. *Pittaja*
3. *Kaphaja*

4. *Sannipataja*
5. *Mridbhakshanajanya*

But *Acharya Sushrut* mentioned 4 types (*vataja*, *pittaja*, *kaphaja* and *sannipataja*) of *Pandu* but he has mentioned 2 types of *kamala* and *halimaka* in this *chikitsa adhikar*.

According to modern pathophysiology classification of Anaemia are as follows¹⁶-

1. Anaemia due to increased blood loss
 - a. Acute post-haemorrhagic Anaemia
 - b. Chronic blood loss
2. Anaemia due to impaired red cell production
 - a. Cytoplasmic maturation defects- Deficit haem synthesis
 - Deficit globin synthesis
 - b. Nuclear maturation defects
 - c. Defect in stem cell proliferation and differentiation
 - d. Anaemia of chronic disorders
 - e. Bonemarrow infiltration
 - f. Congenital Anaemia
3. Anaemia due to increased red cell destruction.

Pathogenesis: -

When mainly *pitta dosha* aggravated within the *dhatu*s it makes them flabby and heavy. After that the complexion, vitality, unctuousness and other quality of *Ojas* become excessively diminished as a result of the morbidity of humors as well as of the body elements¹⁷.

A number of factors may contribute to development of Anaemia in chronic systemic disorders and in many conditions the Anaemia is complicated by other causes such as iron, vit. B₁₂ and folate deficiency, hypersplenism, renal failure with consequent reduced erythropoietic activity, endocrine abnormalities etc. again vit B₁₂ plays an important role in general cell metabolism, particularly essential for normal hematopoiesis and for maintenance of integrity of the nervous system. Vit B₁₂ or cobalamin is a complex organo-metallic compound having a cobalt atom situated within a corrin ring, similar to the structure of porphyrine from which haem is formed. In humans, there are two metabolically active forms of cobalamin- methyl cobalamin and adenosyl cobalamin which acts as coenzymes. Now the only dietary sources of vit B₁₂ are foods of animal protein. In contrast to folate, fruits and vegetables contain practically no vit B₁₂ unless contaminated with bacteria. Vit B₁₂ is synthesized in human large bowel by micro-organisms but not absorbed from this site and thus the humans are entirely dependent upon dietary sources. After ingestion, vit B₁₂ in food is released and form a stable complex with gastric R-binder (a form of glycoprotein). On entering the duodenum, the vit B₁₂ – R-binder complex is digested

releasing vit B₁₂ which then binds to intrinsic factor. The IF is a glycoprotein produced by parietal cells of the stomach and its secretion roughly parallels that of hydrochloric acid. The vit B₁₂-IF complex on reaching the distal ileum binds to the specific receptors on the mucosal brush borders, thereby enabling the vit to be absorbed. The IF therefore acts as cell directed carrier protein similar to transferrin. The receptor bound vit B₁₂-IF complex is taken into ileal mucosal cells where after several hours the IF is destroyed, vit B₁₂ released and transferred to another transport protein transcobalamin II. The vit B₁₂-TC II complex is finally secreted into the portal circulation from where it is taken by the liver, bone marrow and other cells. Normally liver is the principle storage site of vit B₁₂ and major source of loss of vit B₁₂ is via bile and shedding of intestinal epithelial cells. The source of another factor folate are different plants, bacteria and animal tissues but it is labile and largely destroyed by cooking and canning. It is absorbed from duodenum and upper jejunum¹⁸.

Discussion:

Pandu is a *santarpanaja vyadhi* that is a disease due to over nutrition. Anaemia basically manifest when there is deficiency of haemoglobin in the body. This deficiency may occur due to excessive loss of blood, lack of blood cell production or increased red cell destruction. In the etiopathogenesis of *Pandu* causative *aahar vihar* of a person is highlighted and emphasized. On the other hand, in the pathogenesis of Anaemia

different conditions of body elements and their functioning is highlighted but if there is any personal habit responsible behind those facts- it is not clear. In both *Pandu* and Anaemia, improper digestion of food is one of the main causes behind their manifestation. Nowhere it is mentioned that both the diseases manifest due to hunger so we can say that normal or excess amount of food which cannot be digested properly, cannot produce *rasadhātu*. In spite of taking good quality of food sometimes due to improper regimes like sleeping during day time, physical exercise before complete digestion of food etc. they are not digested properly and contaminated food that are not digested properly may give birth of worms that is *purishaja krimi*, results to lack of production of *rasagni* also. Since *aahar rasa* is not properly prepared, it cannot produce the consecutive *dhatu*s, thus the *pitta pradhan dosha* in *dhatu*s gets vitiated. Hence we can obviously say that, excess *santrapana* (over nutrition) may cause *manda jatharaagni* which results in to indigestion (*Ajeerana*), that results into malabsorption and *aparipakva dhātu* formation and converted into malnutrition disease Anaemia i.e. *aptarapanajanya vyadhi Pandu*

Conclusion: -

Pandu is a *santarpanjanya vyadhi*. It can be correlated with Anaemia. Anaemia does not occur always due to malnutrition it can also manifest from over nutrition. Excess amount of food cannot be digested by less amount of digestive fire or enzymes hence proper quality of *aahar rasa* is not produced that is proper nutrients can not be absorbed in the

body which in turn cannot further produce other enzymes hence consecutive *dhatupaka* cannot take place and *Ojas* or energy of the body get reduced. Sometimes contaminated good amount of food which are not digested

properly can give birth of worms (*purishajakrimi*) which again sucks nutrients from already malnourished body resulting in manifestation of *Pandu*.

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