

**AYURVEDIC CONCEPT OF KNOWING UNKNOWN DISEASE (ANUKTA VYADHI)  
W.S.R. TO THALASSEMIA****Kalpana Ladvikar**

Professor Department of Kaumarbhrutya,  
Dr. R. Gode Ayurveda College and Research Centre, Amravati, Maharashtra, India

**Corresponding Author:** [kalpanaladvikar@yahoo.com](mailto:kalpanaladvikar@yahoo.com)<https://doi.org/10.46607/iamj5008102020>**(Published online: October 2020)****Open Access**

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**Article Received:** 08/10/2020 - **Peer Reviewed:** 10/10/2020 - **Accepted for Publication:** 11/10/2020**ABSTRACT**

Thalassemia is the most common genetic disorder resulting from abnormality of Globin chain. It is the worldwide problem of today's era and until no answer to any medical science. It is the challenging disorder for the scientist. The nature of the disease is genetic regarding this so many literatures available in the modern science but in Ayurveda has no answer for this disease. To add the new concept of disease Thalassemia (*Anukta Vyadhi In Ayurveda*), aim of study is to understand the unknown disease, the concept of *Beeja*, *Beejabhaga* and *Beejabhagavayava* should be clear because of its genetic nature of thalassemia. *Charaka* mentioned *Aptopadesha* method of examination, we can acquire knowledge as described by wise men, or *Apta*, use to understand a disease:

**Keywords:** Thalassemia, *Pandu*, *Aptopadesha Pramana*, *Anukta Vyadhi***INTRODUCTION**

Thalassemia is the most common inherited single gene disorder in the world. A systematic approach should be implemented for proper analysis of a disease process. The nature of the disease is genetic regarding this so many literatures available in the modern science but in Ayurveda has no answer for this disease.

The *Beeja Dosha* concept of genetic diseases was established very clear in the ancient time and the disease mentioned in the classics. It is one kind of *Raktaja Vyadhis*, and these are *Tridoshaja*, but among the *Tridoshas*, mainly *Pitta* is predominant, in *Rakta Dushti* as maximum. *Nidanas* for *Rakta Dushti* are

*Pitta Prakopajanya* and the *Pitta and Rakta* have similar properties and site, so as *Pitta* gets vitiated, *Rakta* also becomes vitiated itself. Such disease is classified under *Asadhya Vyadhi*. *Asadhya* nature of genetic disease already mentioned in Ayurvedic classics about *Kulaja Vikara*) and this disease can be managed by only *Nidana Parivarjana* (Carrier screening), *Pathyabhyasa* and by the *Rasayana* drugs which protect them from the complications. The methodology of understanding an unknown disease has been described in Charaka Samhita based on *Aptopadesha Pramana*. These are<sup>1</sup>

- *Prakopanam*: provoking factors, viz. process of the vitiation of the *Doshas*
- *Yoni*: Source of *Doshas*
- *Uthanam*: onset of a disease
- *Atmanam*: The cardinal sign and symptoms.
- *Adhishthanam*: Site, which could be the body or the mind or both
- *Vedanam*: signs and symptoms
- *Sansthanam* (location): *Amashaya*, *Pakwashaya*, *Avayava Vishesha*, or in micro channels
- *Shabda*, *Sparsha*, *Rupa*, *Rasa*, *Gandham* (five senses): Altered sensorium.
- *Updravam*: Complications
- *Vridhhi Sthana Kshayam* (Increased, decreased, balanced): Whether *dosha*, *dhatu* and *mala* are increased, decreased, or in balance
- *Udarakam*: Prognosis
- *Namanam*: Nomenclature
- *Pravritti*: Indicated treatment
- *Nivritti*: Contraindication

***Aptopadesha Pramana in relation to Beej dosha:***

**1. *Prakopanam***: The word *Prakopanam* implies the *Hetu* for the vitiation of *Doshas*. The factors by which the imbalance of *Doshic* status is triggered

will be coming under this heading. The prime agent for the change in homeostasis is the *Ahita Sevana of Ahara* or *Vihara*. In *Astanga Hridaya* which clear that the reason behind the *Beeja Dushti* depend on improper diet pattern of mother and father (*Beejataptistu Matripitraapcharatah*) or it may be due to *Daiva prakopa* which leads to *Sannipata* and diseases originate.<sup>2</sup> The causative factor of disease Thalassemia is either defective gene or deletion of gene that responsible for the formation of hemoglobin.

**2. *Yoni***: *Yoni* denotes *Moolabhoota* of a disease. *Moolakarana* of Thalassemia is *Beeja Dushti*. Here the *Beeja* denote *Shukra* and *Shonita*.<sup>3</sup> The seeds of *Shukra* and *Artava* have chromosomes with genes representing the future organs to be developed. These are described as a *Beeja* (Sperm/ovum), *Beejabhaga* (Chromosomes), & *Beejabhagavayava* (Genes) in Ayurveda.<sup>4</sup>

**3. *Utthanam***: Due to *Anuchita Ahara – Vihara* of the parents *Doshas* predominantly *Vata* and *Pitta* vitiated and circulating throughout the body and at the cellular level mutate the genetic code of cell that's why normal functioning of that *Dhatu* will be altered, either leading to its destruction or abnormality. Changes in the *Prakriti* of *Dhatu* results of *Dhatu Vikriti*. (Ch.Sha.6/18). Thalassemia onset generally occurs from 6-24 months of age. The severe anemia requires systematic transfusions to maintain Hb levels above the range of 90-100 g/L and to allow normal activity.<sup>5</sup>

**4. *Atmanam***: *Pratyatmalinga* of disease is known as its *Swaroopa*. The main symptom of Thalassemia is *Panduta*. This is the *pratyatmalinga* of Thalassemia where as *Pandubhava* is invariable feature mentioned in *Pandu Roga*. Second main feature of Thalassemia is *Alparaktata* (Hb% decreases).

**Table 1:** Clinical features of Thalassemia similar to *Pandu*

<b>Thalassemia<sup>6</sup></b>	<b><i>Pandu</i></b>
Pallor	<i>Twak Pandutva</i>
Reduction in Hb gm %	<i>Alparaktata</i>
General weakness	<i>Daurbalya</i>
Dyspnea on exertion	<i>Arohaneayasa</i>

Palpitation	<i>Hridyaspandana</i>
Pyrexia	<i>Jwara</i>
Anorexia, Dysphagia	<i>Aruchi, Annadwasha</i>
Loss of appetite	<i>Kshudamandya</i>
Headache	<i>Shirahshula</i>
General Bodyache	<i>Angamarda, Gatrashula</i>

5. **Adhistanam:** The diseases may have their locus either in the *Sareera or Mana*. *Adhistanam* implies the main site of affliction. In Thalassemia the prime center of affliction is *Beejabhagavayava* (gene), which is responsible for the formation of *Rakta Dhatu*. Thalassemia syndromes are among the most common. Normal adult hemoglobin produced after birth (hemoglobin A [HbA]) consists of a heme molecule linked to two  $\alpha$ -globin and two  $\beta$ -globin chains ( $\alpha_2\beta_2$ ), with  $\alpha$ -globin chain production dependent on four genes on chromosome 16, and  $\beta$ -globin chain production arising from two genes on chromosome 11. Deletions or mutations of one or more of these genes so that the rate of production of  $\alpha$ - or  $\beta$ -globin chains is reduced results in alpha thalassemia or beta thalassemia, respectively.<sup>7</sup>

6. **Vedanam:** *Vedanam* denotes knowledge. Here it can be applied for the various diagnostic tests for Thalassemia. The diagnostic methods in Ayurveda are by means of *Shabda Sparsha, Rupa, Rasa, Gandha* i.e. *Prathyaksha Pariksha* and *Anumana Pariksha* which includes the provisional diagnosis. Thalassemia profile that includes CBC preferably on cell counter, peripheral smear, HbF & HbA2 estimation (quantitative), Hb electrophoresis or Hb HPLC.<sup>8</sup> Iron studies and serum ferritin wherever required. All these tests should be undertaken before the first transfusion.

7. **Samsthanam:** *Samsthana* refers to the clinical manifestations of the disease. At this stage, *Dosha Dushya Sammurchana* would have completed and onset of disease would have commenced. The specialty of Thalassemia is that its progression adversely involves almost all the systemic processes. Thence the various symptoms may appear and persist throughout the lifetime one after another.

8. **Upadravam:** *Upadrava* is a disease produced after the formation of main disease and is dependent on the main disease whether *Upadrava* is major or minor. It is a secondary complication, produced by same *Dosha* that is responsible for formation of main disease. Thalassemia syndrome followed by a spectrum of diseases after a period of clinical latency. Complications are still common and include heart disease (heart failure and arrhythmias), chronic liver hepatitis, which can evolve in cirrhosis and, rarely, in hepatocellular carcinoma, endocrine problems (hypogonadism, hypothyroidism, diabetes, hypoparathyroidism), stunted growth, osteoporosis, thrombophilia and pseudoxanthoma elasticum.<sup>9</sup>

9. **Vridhhi, Sthana, Kshaya:** This implies for the aggravating, static and reliving factors of disease. In short it implies for *Upashya and Anupashya*. The factors which results in depletion of Dhatus and deterioration of *Bala* (Immunity) will enhance the disease progress. The use of Antioxidant, Hepatoprotective, and Immunomodulator decrease the progression.

10: **Udarkam:** *Udarkam* means the outcome of disease process. According to Charaka if Vaidya knows curable and incurable diseases and initiates treatment in time with the full knowledge (about the various aspects of the therapeutics) can certainly accomplish his objective (of curing the disease).<sup>10</sup> The *Udarka* of a *Vyadhi* is determined by considering following features.

- Number of prodromal symptoms appearing
- Severity of prodromal symptoms
- Involvement of *Doshas* and *Dushyas* in its *Samprapti*.
- Season
- Place
- Gati of Doshas*

- (g) Afflicted *Vyadhimargas*
- (h) Afflicted organs
- (i) *Upadravas*
- (j) Response to medicines

As per the severity of these features, the *Vyadhi* becomes *Sadhya or Asadhya*.

**11. Namam:** Acharyas named the diseases according to its

- (1) *Pratyatmalinga (Rupa)*
- (2) Involved *Dosha* and *Dushyas (Samprapti Ghatakas)*
- (3) *Adhithana*

**Pratyatmalinga:** This is the specific symptom of particular disease. *Pratinityata lakshana* and *Avyabhichari lakshana* are its synonyms. It indicates the *Swarupa of Vyadhi*. In Thalassemia *pratyatmalinga* is *Panduta* (Discoloration of skin) and *Raktalpata* is the landmark of disease. Due to that features it may be considered under *Pandu Roga*.

**Involvement of Dosha and Dushya:** Another criterion of naming is according to the pathogenesis of disease e.g. *Rakta Pitta* is named after the chiefly involved *Dosha and Dushya* in the disease. In Thalassemia during the study observe that *Vatapitta Prakriti* was found predominant it may be due to vitiation of *Vata* and *Pitta* along with *Sleshmakshaya*. Thalassemia may be coming under the *Anuvanshika Tridosaja Pandu*. *Tridoshaja Pandu* is the severe form of all the types of *Pandu*.

**Adhithana:** *Adhithana* is another criterion for naming a disease. A next criterion in naming a disease is according to its *Adhithana*. *Adhithana* of Thalassemia is the *Beejabhagavayava*, which is responsible for the formation of *Rakta-Dhatu*. Hence the *Vyadhi* can also be named as *Beejadushtijanya Pandu in Bala*.

**12. Yogam:** *Yogam* implies planning of treatment i.e. stratagem of therapy. The treatment should be arranged in such a way as to deal with the problems of chronic, life threatening illness. *Pravritti* and *Nivritti* comes under treatment protocol. According to *Vagbhata* the treatment should be arranged in such a way as to deal with the problems of chronic, life threatening illness. Before starting treatment, procedures disease must be

studied first.<sup>11</sup> Thalassemia treatment principals include *Nidana Parivarjana, Agni Sandeepana, Pachana, Sroto-anusari Chikitsa, Snehana, Balya, Brimhana, Jeevaneeya, Vayasthapana, Vrishya, Rasayana, Pandu Chikitsa, Apatarpanotha Vyadhi Chikitsa, Dosha Pratyaneeka Chikitsa, Raktadhatu vardhaka and Raktadhatu Sthapaka Chikitsa*.

## DISCUSSION

The *Beeja Dosha* concept of genetic diseases was established very clear in the ancient time and the disease mentioned in the classics. The vitiated *Beejabhagavayava of Rakta Dhatu* already presents in the offspring but after manifestation of disease, excess intake of *Pitta Prakopaka Ahara* lead to *Dushti of Tridosha* but mainly *Dushti of Pitta*. After taking *Pittavardhaka Ahara Ushma, Guna of Pitta* increases and *Raga (Pittoshma)* also affected the same as principle of *Sarvada Sarva Bhavanam Samanyam vridhhi Karanam*. *Raga (Pittosma)* is the *Guna* which can not exist independently in the body and the substances on which it depends is the *Rasa*. So as per Ayurveda, one can define that when *Raga (RBCs + Hb)* is added to *Rasa* (plasma), *Rakta* is formed. *Raktaja Vyadhis* are *Tridoshaja*, but among the *Tridoshas*, mainly *Pitta* is predominant, in *Rakta Dushti* as maximum *Nidanas* for *Rakta Dushti* are *Pitta Prakopajanya* and the *Pitta and Rakta* have similar properties and site, so as *Pitta* gets vitiated, *Rakta* also becomes vitiated itself. *Moolakarana* or the essential cause for Thalassemia is the defect in the *Globin chain*. Defected  $\alpha$  and  $\beta$  genes are responsible factor of this disease. The causative factors of disease given in the classics are mainly three types *Asatmendriyarthamamyoga, Pragyaparadha* or *Parinama*.<sup>12</sup> The defect in the *Globin chain* may be due to these factors. The causes of *Vikrita Santana* mention in the classics are *Beeja, Atmakarma, Ashaya (Garbhashaya) and Kala* (Time factor) and *Matuha Ahara Vihara*. These hidden factors must be affecting the Genetic structure of the human body. Due to these characters, *Vyadhi* becomes almost *Pratyakheya* in nature. *Asadhya* nature of genetic disease already

mentioned in Ayurvedic classics in reference to *Kulaja Vikara*<sup>13</sup> and this disease can be managed by only *Nidana Parivarjana* (Carrier screening), *Pathyabhyasa* and by the *Rasayana* drugs which protect them from the complications.

## CONCLUSION

In Thalassemia due to defective Globin chain synthesis, normal RBCs are not formed and those are formed having very less survival rate. The RBCs destruction occurs in the spleen (Major organ of Reticulo-Endothelial system. Charaka and Sushruta have clearly mentioned that the vitiation of all the three *Doshas* causes *Rakta Dushti* and thereby *Twak* become pale in colour. Pathogenesis of Thalassemia (*Anukta Vyadhi in Ayurveda*) can be understood by *Aptopadesha* method of examination in mentioned Charaka.

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