



A COMPREHENSIVE REVIEW OF SANNIPATIKA PANDU W.S.R TO SICKLE CELL ANEMIA

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ABSTRACT

In Ayurvedic texts, nomenclature of the disease has its own importance. The disease Pandu has been described on the basis of its presentation. The peculiar colour presentation of the patient has been described by Acharyas i.e. the colour of the patient is like the 'Ketaki-Raj' which is similar to the combination colour of white and yellow in a particular proportion. The disease Pandu has been widely and thoroughly described in all Ayurvedic Samhitas. References about this disease can be found since time immemorial [e.g. in Vedas, Garuda-Puran, Agni-Purana, Mahabharat, Valmiki Ramayan etc.] There are five types of Pandu roga, among these Sannipataja Pandu Roga is one of the diseases mentioned in Ayurveda Classics. Sign and symptoms such as Panduta, daurbalya, hridspandanadhikya, akshikuta shotha, etc. are so often observed in such patients that clinical features in combination are considered the cardinal features of Sannipatika Pandu Roga. In modern science we may co-relate with Sick cell Anaemia due to the resemblance of sign and symptoms. Sick cell Anaemia is a genetic and pathological haematological condition characterized by Red Blood Cell became rigid and sickle shape. This disorder present throughout the world but its prevalence is higher in developing countries like India. Children, adult and females suffer the most from this disease. Life expectancy is shortened and quality of life hamper due to its chronic nature and painful crisis. This article presents the Ayurvedic Concept of Sannipatika Pandu Roga.

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INTRODUCTION

Ayurveda, is an ancient science and *upaveda* of *Atharva veda*. AYUSH means longevity of life and VEDA means knowledge. So, Ayurveda means the scientific study of human life. There are seven important constituents i.e., *Rasa*, *Rakta*, *Mamsa*, *Meda*, *Asthi*, *Majja*, and *Shukra* in the human body. They are known as “*Saptadhatu*” in Ayurveda. Among them *Rakta* is a very important dhatu. *Acharya Sushruta* has mentioned that *Rakta* is the life in living body. *Pandu roga* is developed due to deficiency of *Rakta dhatu* in one's body. Therefore, it should be protected from all types of vitiation and pathogenic factors. In Ayurveda *Pandu roga* may correlate with Anaemia. All *Brihatrayee* as well as other ancient textual have described *Pandu roga* along with etio-pathogenesis, classification, clinical signs and symptoms and its justified managements. *Pandu roga* is coming under *Rasa pradosaja vikara*. *Pandu roga* may be co-related with Anaemia. Anaemia

may be defined as the reduction in the number of circulating red blood cells, or haemoglobin concentration in relation to standard age and sex and is clinically manifested by pallor. The common causes of anaemia are poor dietary intake of Iron, Vit.B₁₂ deficiency, folic acid deficiency, congenital, leukaemia, excessive haemolysis in various disorders like malaria, hypersplenism, haemorrhage, chronic disease like rheumatoid arthritis, kidney diseases, hook worm infestation. The cardinal features of anaemia are- general malaise, pallor of the skin, nail bed and mucus membrane, tachycardia, palpitation, fatigue, vertigo, headache, dyspnoea and exertion, weakness, loss of appetite. In severe cases koilonychia, glossitis and oedema may appear. In Ayurvedic classics, the *Sannipatika Panduroga*, described in Ayurveda Classics resembles to the clinical features of Sick cell Anaemia (SCA). Sick cell Anaemia results from substitution of a single Amino Acid. Glutamic Acid in place of Valine at 6th position of the β globin polypeptide chain. Produce homozygous (HbSS) and



heterozygous (HbAS) mainly two varieties of Sickle cell Disease (SCD)

Materials and Methods

Material has been collected from Ayurvedic classics, Modern literature and research journals.

NIDANA OF SANNIPATIKA PANDUROGA

The general aetiology or Samanya Nidana of *Sannipatika Pandu roga* is described in *Charak Samhita*. Which all factors mainly related to *Aharaja*, *Viharaja* and *Nidanarthkar roga*.

1. Aharaja Hetu
2. Viharaja Hetu
3. Nidanarthakara Roga

1. Causes related to Ahara: Food or diet plays an important role in the normal development and maintenance of different

*dhatu*s of the body. According to *ayurvedic texts*, factors pertaining to diet which can cause *Sannipatika Panduroga* can be classified into the following groups.

- (a) Deficient in quantity
- (b) Deficient in quality
- (c) Faulty diet

2. Cause related to Vihara: This factor deals with both the mental and physical activities of an individual. Faulty treatment is also responsible for the manifestation of *Panduroga*. Thus, causative factor related to *vihara* can be of three types.

- (a) *Sharirika*
- (b) *Mansika*
- (c) *Pratikarmavaishmya*

Various *Nidanas* or etiological factors of *Sannipatika Panduroga* according to Ayurvedic texts are mentioned in the table below.

Aharaja nidanas of Sannipatika Panduroga

Sl. NO	Aharaja nidana	Cha.	Su.	A.H.	Ha.	Bha.	M.N.
1	<i>Ksharatisavana</i>	+	-	-	-	-	-
2	<i>Amlatisavan</i>	+	+	+	-	+	+
3	<i>Lavanatisavana</i>	+	+	+	-	+	+
4	<i>Katukatisavana</i>	-	-	+	+	-	-
5	<i>Kasayatisavana</i>	-	-	-	+	-	-
6	<i>Atiushnatisevana</i>	+	-	+	-	-	-
7	<i>Tikshanatisavana</i>	-	+	+	-	+	+
8	<i>Rukshanatisavana</i>	-	-	-	+	+	-
9	<i>Viruddhatisevana</i>	+	-	-	-	-	-
10	<i>Asatmyabhajana</i>	+	-	-	-	-	-
11	<i>Nishpava</i>	+	+	-	-	-	-
12	<i>Mansadisevana</i>	+	-	-	-	+	-
13	<i>Tilanisevana</i>	+	+	-	-	-	+
14	<i>Tilatailanisevana</i>	+	-	-	-	-	-
15	<i>Vidagddhabhajana</i>	+	-	+	-	-	-
16	<i>Mrid bhakshanam</i>	+	+	-	-	+	+
17	<i>Vyapannasalilapanm</i>	-	+	-	-	-	-
18	<i>Vindya Prabhva salila Jalapanane.</i>	-	-	-	+	-	-
19	<i>Pitta Stanypana.</i>	+	-	-	-	-	-
20	<i>Vishamsevanam.</i>	-	+	+	-	-	-



Viharaja nidanas of Sannipatika Panduroga

Sl. NO	Viharaja nidan	Cha.	Su.	A.H	Ha.	Bha.	M.N.
1	Atinidra	-	-	-	+	-	-
2	Ati Vyayam	+	+	-	-	+	+
3	Ati Vyavaya	+	-	-	-	-	-
4	Atiayasa	-	-	+	-	-	-
5	Amatisara samgraha	-	+	-	-	-	-
6	Bhaya	+	-	-	-	-	-
7	Chinta	+	-	-	-	-	-
8	Dushta raktanigraha	+	-	-	-	-	-
9	Diwasvapana	+	+	-	-	+	+
10	Krodha	+	-	+	-	-	-
11	Kama	+	-	-	-	-	-
12	Ratrijagarana	-	-	-	+	-	-
13	Ritu vaishmya	+	-	+	-	-	-
14	Shoka	+	-	-	-	-	-
15	Sneha vibhrma	+	-	-	-	-	-
16	Snehatiyoga	+	-	-	-	-	-
17	Vega vrodha	+	-	-	-	-	-
18	Vega vidharana	+	-	-	-	-	-

Ayurvedic literature has indicated a correlation of various diseases with *Panduroga* either as symptoms or as

Updravas. So, all these can be causes of Nidanarthkara Rogas of *Sannipatika Panduroga*.

Nidanarthakara rogas of Sannipatika Panduroga

Sl. NO	Nidanarthakara rogas	Cha.	Su.	A.h.	M.n.	Ha.	Bha.
1	Grahani	-	+	+	-	-	-
2	Jeernajwara	+	-	-	-	-	-
3	Katikataruna marmavedha	-	+	-	-	-	-
4	Kaphaja arsha	-	-	+	+	-	+
5	Punaravartaka jwara	+	-	-	-	-	-
6	Pleehodara	-	+	+	-	-	-
7	Raktati pravartanam	-	+	-	-	-	-
8	Raktakshya	-	-	-	-	+	+
9	Rakta srava	-	+	-	-	-	-
10	Raktarsha	+	+	-	-	-	-
11	Rajayakshyma	-	+	-	-	-	+
12	Raktarbuda	-	+	-	+	-	+
13	Rasapradoshaja roga	+	-	-	-	-	-
14	Rakta pradara	+	+	-	-	-	-
15	Sannipatodara	-	+	-	-	-	+
16	Sotha	-	-	-	-	-	+
17	Swasa	-	+	-	-	-	-
18	Santarpanajanya rogas	+	-	-	-	-	-
19	Upadrava of raktapitta	+	-	-	-	-	-
20	DhamaniVedha	+	-	-	-	-	-
21	Yakritopleehovedha	+	-	-	-	-	-
22	Antarlohita	+	-	-	-	-	-

PURVARUPA

Symptoms which manifest themselves before the appearance of the disease (premonitory symptoms) are known as *Purvarupa*. *Purvarupa* indicates the diseases which are unmanifested and non-existent. *Purvarupas* are of two types

1. *Samanya*
2. *Vishesha*

Samanya purvarupas are given in the table No-2.01. Description of *vishesha prurvarupas* is not available in the

classical texts. However, description regarding *Vishishta Prurvarupas* is available in the classical texts. However, based on the symptom complex, they can be reasonably inferred as *Twak-sfutitata*, *Raukshya*, *Pipasa*, *Pitavinmutrata*, *Sththivanadhikya*, *Angagaurava*, *Akshikutashotha* and *Mrid bhakshanechchha* which is indicative of *Sannipatika Panduroga*.



Purvarupa of Sannipatika Panduroga

Sl. NO	Purvarupa	Cha.	Su.	A.H.	M.N.	Bha.	Ha.
1	Avipaka	-	+	-	+	+	-
2	Akshikuta sotha	-	+	-	+	-	-
3	Aruchi	-	-	+	-	-	-
4	Alpa-agnita	-	-	+	-	-	-
5	Angasada	-	-	+	-	-	-
6	Gatrasada	-	+	+	-	+	-
7	Hridspandana	+	-	+	-	-	-
8	Mutra pittata	-	+	-	-	-	-
9	Mrid bhakshyana echha	-	+	-	-	-	-
10	Pandurogata	-	-	-	-	-	+
11	Rukshyata	+	-	+	-	-	-
12	Swedabhava	+	-	+	-	-	-
13	Shrama	+	-	+	-	-	-
14	Sthibanadhikya	-	+	-	+	+	-
15	Twak sphutana	-	+	-	+	+	+

RUPA

Madhava and Bhavaprakasha described some special symptoms of *Tridoshaja Panduroga* and mentioned that this type of *Panduroga* is *Asadhya*. The symptoms of *Tridoshaja Panduroga* according to these *Acharayas* are *Jwara*, *Arochaka*, *Hrillasa*, *Chhardi*, *Trishna*, *Klama* and the patient becomes *Kshina* and *Hatendriya*.

RESEMBLANCE OF SANNIPATAJ PANDU WITH SICKLE CELL ANAEMIA

Sickle Cell Anemia is a new disease for the Ayurveda thus it is called as '*Anukta Vyadhi*' in Ayurveda. In our classics the word "Sickle Cell Anemia" is not found. We can understand the disease by careful study of its clinical presentation. The disease can be correlate with *Sannipataja pandu* symptomatically

SANNIPATAJ PANDU	SICKLE CELL ANAEMIA
Gatraschoola, sandhishoolo	Body ache, Pain & crisis
Shotha	Swelling
Jwara	Fever
Dourbalya	Generalized weakness
Shrama	Easy fatiguability
Pittavarnatwa	Jaundice
Udarshoolo	Pain in abdomen
Swasa Kasa	Recurrent pulmonary Infection
Hridroga	Palpitation
Panduta, Alparaktata	Anaemia
Twaka sphotanam	Leg ulcer
Aruchi	Anorexia
Yakritapleehavridhhi	Haepatosplenomegaly

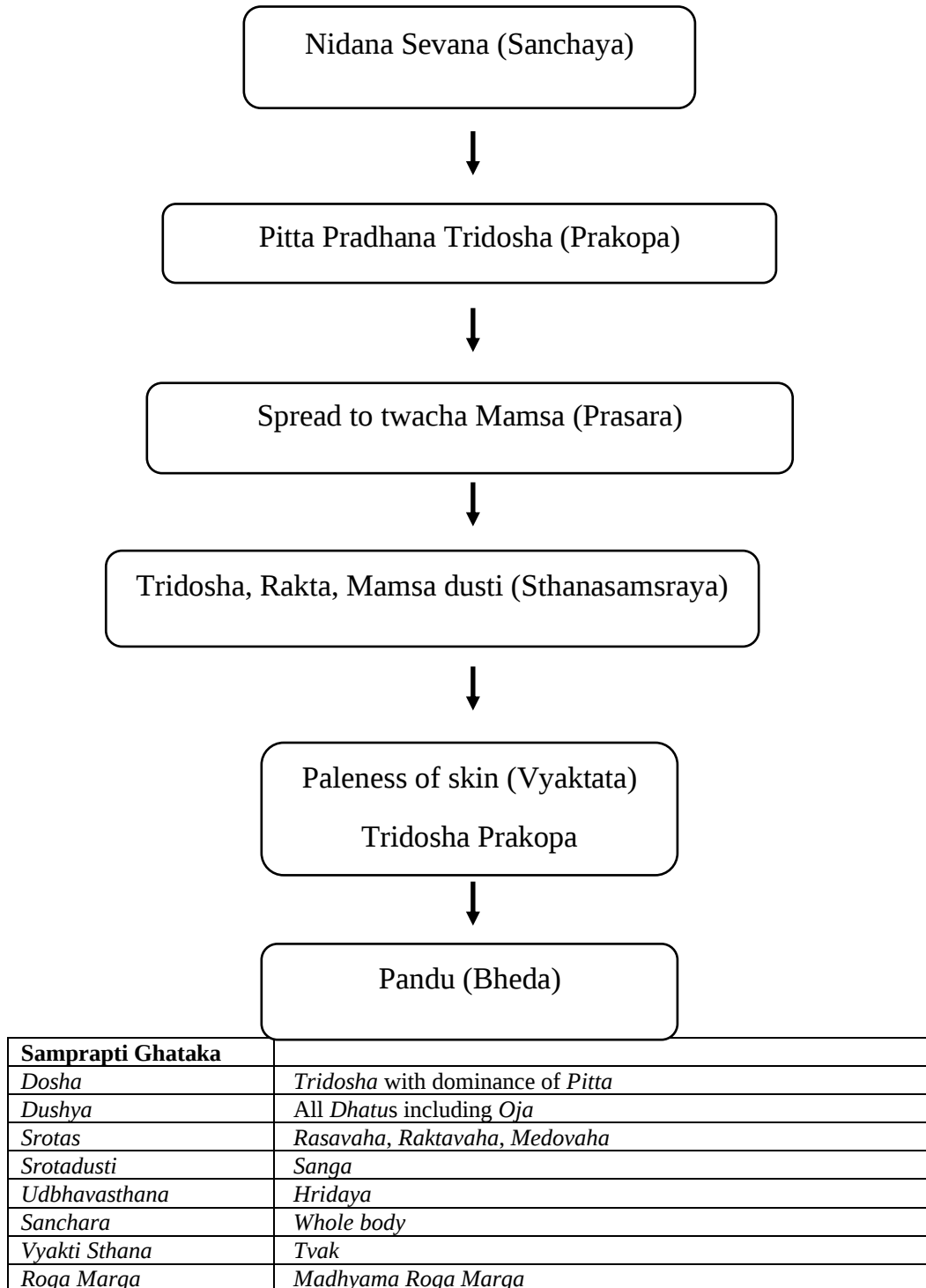
SAMPRAPTI

According to *Vagbhatta*, *Samprapti* is the step-by-step progress of any disease. This deals with the process of vitiation of *Doshas*, *Kha- Vaigunya*, *Dosha-Dushya* *Sammurchhana*

leading to signs or symptoms of the disease. It is concerned with both clinical as well as sub-clinical stages of the disease.



SAMPRAPTI CHAKRA



UPADRAVA

Doshas which produce the main disease, later on the same *Doshas* produce any *vikaras*. These *vikaras* are known as *Upadravas*. *Upadravas* develop after development of main disease. *Sushruta* and *Madhava* *Nidana* had mentioned the complications of *Sannipatika Panduroga*.

***Aruchi *Klama *Pipasa *Hridya pidana *Jwara *Shwasa
*Murdharuja *Kasa *Agnisada *Atisara *Kshina
*Hatendriya**

PROGNOSIS: - SADHYASADHYATA

Knowledge of *sadhyasadhyata* is important for *Vaidya*. The various features available about the bad prognosis of *Sannipatika Panduroga* as available in *Ayurvedic* texts are as follows.

1. Patients in whom the anaemia has been dominant for a long duration and has led to excessive dehydration.
2. Patients who have developed oedema on account of the long duration of disease and whose vision has become yellow.



- Patients who frequently pass yellow hardened and scanty stools mixed with mucous.
- Patient who has become depressed in spirit and pale and whose body has become excessive by clumsy and who are afflicted with vomiting, fainting, and thirst.
- The patients who in consequence of loss of blood have developed pronounced pallor.
- The patients whose face and limbs are emaciated but the antaradhi is oedematous and distended.
- The patients who have oedema over the limbs and who are very much emaciated
- The patients whose genitals are oedematous and who are afflicted with recurrent attacks of fainting and become unconscious (proctitis, orchitis, fistula etc.), the degeneration of internal organs with atrophy.
- The patients whose eyes, nail, teeth have become pale and whose vision has also become pale.
- The patients who are very much emaciated and develop dyspnoea and thirst.
- The patients who have developed oedema, whose eyes and nails become yellowish and whose vision has also become yellow
- These are the features quoted in the *Asadhya lakshanas* of *Panduroga* which when present, the prognosis should be taken as bad.

PANDUROGA CHIKITSA

CHIKITSA SUTRA

वातिके स्नेहभूयिष्ठं, पैतिके तिकृशीतलम् |
श्लेष्मिके कटुतिक्तोष्णं विमिश्रं सान्निपातिके ||

A) Sodhana Chikitsa

- Snehana
- Vamana
- Virechana
- Vasti

B) Samana Chikitsa

- Samana Chikitsa
- Visista Chikitsa
- Pathya-Apathya Chikitsa

A) Vanaspatik Yog

Charak	Sushruta	Vagbhatta
Dadimadi Ghrit	Haridra Ghrit	Duralbhadi Ghrit
Katukadi Ghrit	Darvyadi Ghrit	
Pathya Ghrit	Bhrhatyadi Ghrit	
Danti Ghrit		
Drakshadi Ghrit		

B) Khanij Yoga

Loha only	Loha in Yoga
Loha Bhasma	Navayas Churna
Shuddha Mandoor Churna	Nisha loha vati
Tikshna Loha	Tapyadi Loha
Shuddha Kasis Bhasma	Mandoor Vatak
Suwarna Makshika	Punarnava Mandur
Shuddha Shilajit	Manduradya Valeha
Shuddha Gairik	Lohasav

Sodhana - Chikitsa

i) **Snehan-Karma:** In *Sannipatika Panduroga*, there is natural *Snehabhava* resulting in the *Rukshta* of the body. Besides this, *Dosha* and *Mala* are adhered into *Shakhas*. So, in order to correct the *Rukshta* and drive the *Doshas* into *Kostha*, *Snehan* is required. *Acharya Charaka* has advocated both types of *Snehana*, *Bahya* as well as *Abhyantar Snehana*.

Snehanartha-Yoga:

Pancha-gavya Ghrit, Maha-tikta Ghrit, Kalyanak Ghrit, Dadimadi Ghrit, Katukadya Ghrit, Pathya Ghrit, Danti Ghrit, Draksha Ghrit, Haridradi Ghrit, Bruhatyadi Ghrit, Murvadya Ghrit, Rajni Ghrit, Triphaladi Ghrit, Aragvadhadijana Siddha Ghrit.

ii) **Vaman-Karma:** After *samyak-Snehan*, *Doshas* are driven into the *Kostha*. To expel the *Doshas* out, *Vaman* and *Virechana Karma* is done. *Sanshodhan* is done in accordance with *Vyadhi-Bala, Rogi-Bala*.

Vamanartha Yoga: Kotha-phala, Ikshwaku, Krit Vedhan

iii) **Virechan Karma:** As we know, *Virechana* is the best *Shodhanopkram* of *Pitta Dosha*. Hence, *Virechana* is the best and most acceptable *Shanshodhanopkram* in *Sannipatika Panduroga*

Virechanartha Yoga

Danti-phala Kwatha + Gambhari Phala or Draksha Phala.

Nishottar Churna + Dwiguna Sarkara Pittaj Panduroga Aragwadha Magaj + Trikatu Churna - Kaphaj Panduroga

Gomutra + Haritaki Churna - Kaphaj Panduroga Ardhapala Danti with Mutra

iv) **Basti Karma:** *Acharyas* have explained the wide importance of *Vaman* and *Virechana*. In addition to this, *Basti Karma* is also useful especially *Kshir- Basti*.

Shaman Chikitsa (Samanya)



Avaleha used in Sannipatika Panduroga:

Darvyadi avaleha, Dhatryavaleha, Drakshadi avaleha, Manduradya avaleha, Triphaladyavaleha

Other treatment in Sannipatika Panduroga include the use of Animal liver

PATHYA-APATHYA

Pathya Ahara	
Food	Old wheat, rice (Shastika), Barley, Jawar, Green Gram, Pea.
Vegetables	Dudhi, Patol, Bimbi, Chakvat, Palak, Shepu, Jeevanti, Guduchi
Non vegetables	Shigada fish, Goat meat, Jangal meat
Fruits	Amala, Grapes, Anjeer, Chiku, Banana, Falsa, Mango, Khajoor.
Roots	Shingada, Kamalkunda, Lasona, Ginger
Milk Products	Cow milk, Ghee, Navneeta Takra
Liquids	Go-mutra, Laja-Manda, KoshnaJal, Laghupanchamula Siddhajal.
Madya Varga	Sauvir, Tushodak
Kshar Varga	Yava Kshar
Pathya Vihara	Light Exercise
Apathya Ahara	
Shak Varga	Except above
Shimbi Varga	Matar, Masha, Pinyak
Dal Varga	Til, Sarshapa
Tail Varga	Bijowar Tail
Jal Varga	Atyambu Pan
Apathya Vihara	Divaswapa, Atapsevan, Ativyayama, Ativyavaya, Vegvidharana, Chinta, Shoka etc.

DISCUSSION

The review article provides a comprehensive understanding of Sannipatika Pandu Roga through the lens of Ayurvedic Pathogenesis and management. Clinical presentation of Sannipatika Pandu can be co-related with sickle cell Anaemia. Sickle cell Anemia is without blood or pallor of the body. As the disease is closely related with decrease of Rakta. Hydroxyurea, folic acid and at the last blood transfusion is the only treatment available for saving of life of Slickline patient. But Ayurvedic remedies will help to save the life of patient through its with restorative, immuno-modulatory, hepatoprotective, antipyretic, analgesics and hematogenic properties.

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