

## OVERVIEW AND TREATMENT OF ANEMIA

Monika Pawar\*, Ganesh Vitukade, Yogita Shinde, Komal Navale, Arpita Satav and  
Kanish Mehta

Sunrise Residency, Jay Malhar Colony, Manjari Road, Hadapsar, Pune,  
Maharashtra-412305.

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\*Corresponding Author

Monika Pawar

Sunrise Residency, Jay  
Malhar Colony, Manjari  
Road, Hadapsar, Pune,  
Maharashtra-412305.

## ABSTRACT

Anemia is the most chronic nutritional disorder. It is caused due to vitamin B12 and vitamin C, low iron content in body and chronic blood loss. In Ayurveda, Vataja, Pittaja, Kaphaja, Mridhakshanjanya, sannipataja. In that, some types and classification are given, some preparations in Ayurveda for correction and treatment of anemia. So this study was conducted to investigate to check the Ayurvedic formulation which treats anemia and some diet to overcome anemia.

**What is Haemoglobin?** "Haem" means pigment part and "Globin" means protein part. **What is anemia?** Anemia which is known as "Pandu roga" in Ayurveda, is a condition which lacks hemoglobin in the body and lacks red blood cells in the body.

## INTRODUCTION

In Ayurveda, Ayurveda is a traditional system of medicine in India. In Ayurveda, there are three principles.

- Vata
- Pitta
- Kapha

Investigation of the Ayurveda system is done by checking history and evaluating pulse, urine, face, tongue and eyes etc. Anemia is defined as a lack of red blood cells in a healthy person. Anemia is parallel with Pandu roga. 'Pandu' denotes pale or yellowish white colour.

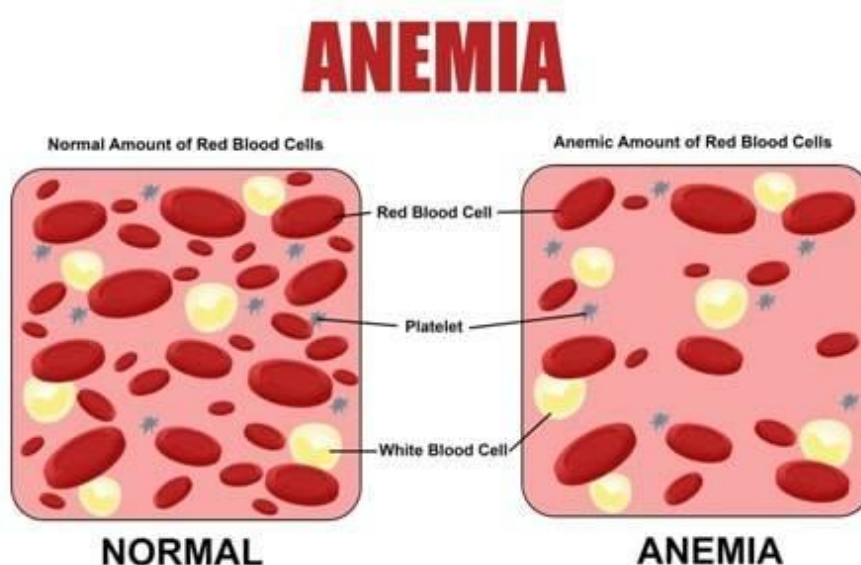
Pandu Rog is a chronic disease which is seen growing in children. As per case study of anaemia patient, patient has got 95% relief from the symptoms and there is an increase in

hemoglobin up to 6.8 gm % to 10.6 gm%. Not only oral medication is enough but taking a proper diet is also essential. Prescriber or vaidya is prescribe the proper diet to the patient.<sup>[1]</sup> If any form of pandu is developed, loss of Appetite, whether due to vata or pitta or kapha, is a stage in which the patient has chronic hyperacidity, causing pandu due to acidity. In this type of case, if the book is good, Garrick shows good action Pandu develops in children even after eating soil. Which disease is caused by different causes that is external or internal.

Ex - piles and accident

Piles - Due to external bleeding, no pathology can be shown on it

Accident - Due to external bleeding, no pathology can be shown on it



## TYPES

There are 5 Types of anemia according to Ayurveda

- Vataja
- Pittaja
- Kaphaja
- Mrid bhakshanjanya
- Sannipataja

### 1. Vataja<sup>[2]</sup>

**Causes** - Vata aggravating food and activities Due to this Bad Vata seen black and yellow or whitish yellow color in the skin, dryness and redness in the body parts In this type of anaemia

vata is a dominant factor. This occurs most commonly in iron deficiency anaemia. Siddha ghee should be used in condition of Vataja.

### Symptoms

- ✓ Dryness of skin
- ✓ Motion hard
- ✓ Anosmia
- ✓ Gases increase
- ✓ Palpitation
- ✓ Headache

### 2. Pittaja<sup>[2]</sup>

Cause - Food and activities that contaminate pitta lead to excessive imbalance of pitta in the system which causes pittaja pandu. Such people show more symptoms of acidity.

It is a by-product of blood. Whenever bile is disturbed, the blood also disturbed. People with chronic acidity develop anemia after some interval.

### Symptoms

- ✓ Sweating,
- ✓ excessive urination,
- ✓ nausea
- ✓ Headache
- ✓ Body colour becomes yellow
- ✓ Excessive sweating

### 3. Kaphaja<sup>[2]</sup>

Cause- Food and activities that contaminate Kapha lead to excessive disorders of Kapha in the system which causes Kaphaja Pandu when it contaminates blood etc. Pitta is dominant factor in this type of anemia. And this is chronic condition.

Eaten food does not convert in the expected place, Strong medicine is used to break it.

Ex - bibba, gomutr, haritki.

It is dry medicine and it penetrates fastly.

**Symptoms**

- ✓ Swelling of the body
- ✓ Palpitation
- ✓ Heaviness of the body
- ✓ Vomiting
- ✓ Nausea
- ✓ Giddiness
- ✓ Fatigue
- ✓ Shortness of the breath

**4. Mrid bhakshanjanya<sup>[2]</sup>**

**Cause-** Consumption of clay. due to over eating of clay that's may cause indigestion and infection in stomach. which further spoil the tissues like blood and lead to mrid bhakshanjanya pandu or mritika janya pandu.

**Symptoms**

- ✓ Swelling cheeks, eyelids & eyebrows
- ✓ Swelling in feets
- ✓ Worm infestation
- ✓ Loose motion
- ✓ Weakness
- ✓ Swelling of penis
- ✓ Blood mixed stool

**5. Sannipataja<sup>[2]</sup>**

**Cause-** Sannipataja it is also known as tridoshaja pandu. Sannipataja is dominant factor in this type of anemia. Tridoshaj Pandu/Sannipataja is caused due to 3 doshas simultaneously due to utilization to food and lifestyle activities which aggravate all the doshas.

**Symptoms**

- ✓ Cough
- ✓ Shortness of brething
- ✓ Palpitation
- ✓ Feeling cold

Causes-

Factors which are responsible to cause anemia are,

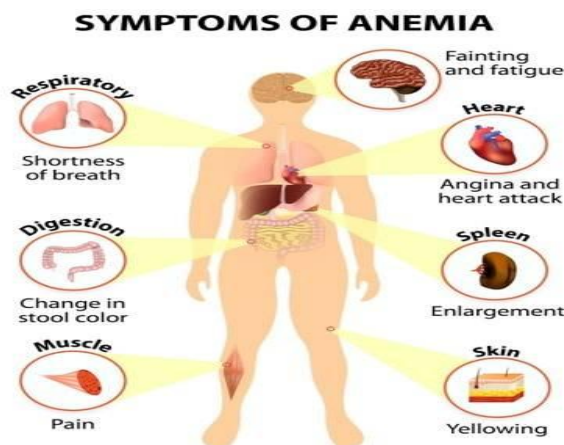
- ◆ like vitamin B12,
- ◆ Vitamin B1
- ◆ iron,
- ◆ excessive blood loss

Blood transfusion is advised in severe anaemia cases where hemoglobins falls below 6 gm/dl.

Strictly follow the diet and modify lifestyle to improve the anaemia condition.

### Initial symptoms of Anemia

- ◆ Palpitation
- ◆ Dryness of skin
- ◆ Darkness of urine
- ◆ Lack of protein
- ◆ Anosmia
- ◆ Weakness
- ◆ Tired of not working



### Types of Anaemia As Per Given Allopathy Medicine

There are various types and classification of anaemia. The profusion of anaemia is due to;

1. Iron deficiency of anemia
2. Pernicious anaemia
3. Haemolytic Anaemia
4. Sickle cell anaemia

## 5. Thalassaemia

This is the stage in the body where oxygen is kept to complete its demand, there is a lack of red blood cells.<sup>[3]</sup>

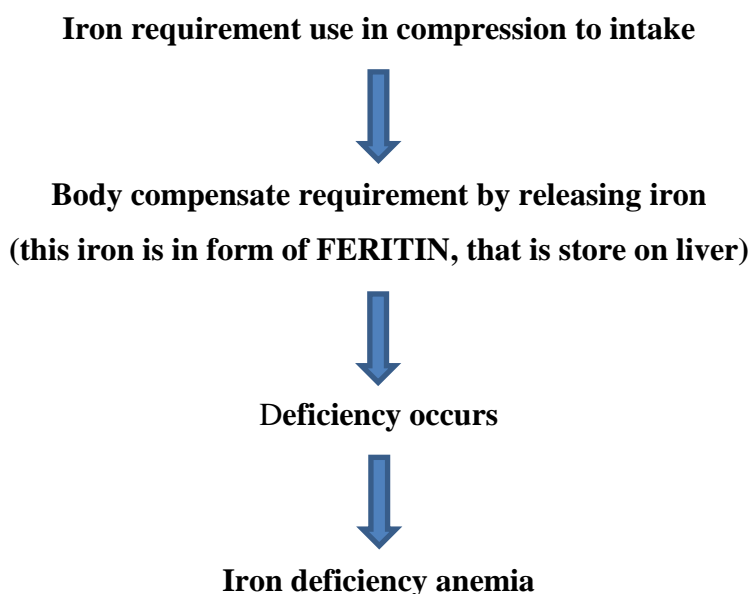
## Iron-Deficiency Anaemia

It is common type of anemia in which without enough iron, body can not produce HB which result in less oxygen carrying capacity of R.B.C cause blood loss, lack of iron in diet.

### Symptoms

- ✓ Fatigue,
- ✓ headaches,
- ✓ palpitations
- ✓ Tinnitus<sup>[3]</sup>

### Pathophysiology

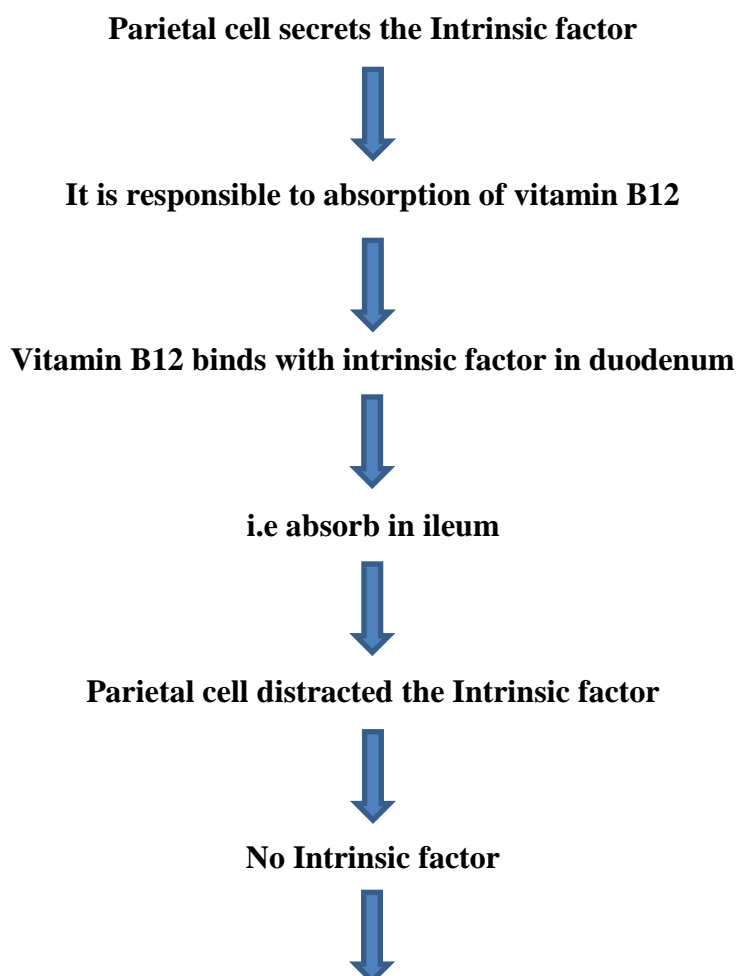


## Pernicious Anaemia

It is decrease in red blood cells when the body cannot absorb enough vitamin B12. The common cause include a weakened stomach lining or an auto-immune condition. Vitamin B12 is important of maturation of RBC in bone marrow is known as erythropoiesis. Source of Vitamin B12 is animal product such as meat, fish, eggs, and milk. Etiopathogenesis of pernicious anemia is due to the poor diet, malabsorption.<sup>[3]</sup>

**Symptoms**

- ✓ Pale skin
- ✓ Shortness of breath
- ✓ Fatigue
- ✓ Headache
- ✓ Weight loss
- ✓ Poor coordination
- ✓ Chest pain
- ✓ Numbness in hands or feet
- ✓ Smooth or shiny red tongue
- ✓ Confusion
- ✓ Depression
- ✓ Tingling sensation
- ✓ Weakness

**Pathophysiology**

No absorption of vitamin B12



**Pernicious Anemia**

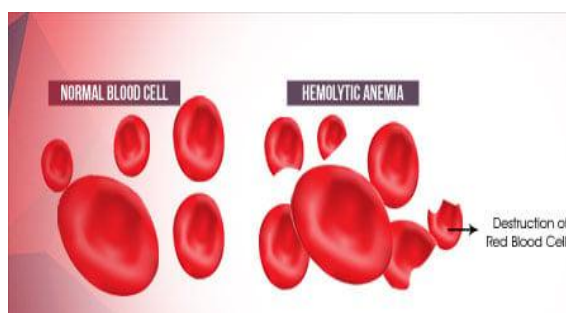
### **Haemolytic Anaemia**

“Hemo” means red blood cell and “lytic” means Breakdown. Haemolytic anemia due to excessive destruction of R.B.C. and decrease the production of Red Blood Cell Hemolytic anemia is state inside body blood that occurs when the blood cells are damage more quickly that they could be restore. It can affect to all stages of people.<sup>[3]</sup>

### **Symptoms**

Fatigue is the most common symptom of anaemia. It may also cause

- ✓ Dyspnea
- ✓ Vertigo
- ✓ Migraine
- ✓ Cool sensation in hands and feets
- ✓ Fade skintone
- ✓ Pain in chest.



### **Sickle cell anaemia**

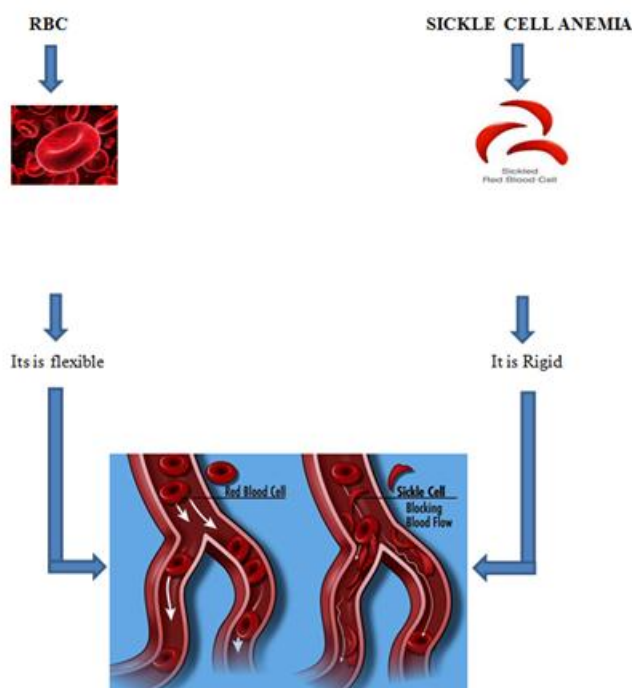
It is hereditary disease of red blood cells. Sickle cell anemia is ("C"-shaped) red blood cells. It contains uncommon hemoglobin which cause sickle shape and cannot be move easily through the blood vessels. Red Blood Cell life span is 80- 120 days and sickle cell anemia is 10-20 days life span i.e distracted fast and destroy in the body.<sup>[3]</sup>

### **Symptoms**

- ✓ Tiredness
- ✓ Dyspnea



- ✓ Vertigo
- ✓ Migraine
- ✓ Cool sensation in hands and feet
- ✓ Fade skintone
- ✓ Pain in chest



### Diagnosis and Investigation of Iron deficiency Anemia

Haemoglobin level to diagnose Anemia (g/dl)

Age group	HAEMOGLOBIN LEVEL (g/dl)			
	No anemia	Mild	Moderate	Severe
Men (> 15 years old )	>13	11-12.9	8-10.9	<8
Non-pregnant women (> 15 years old)	>12	11-11.9	8-10.9	<8
Pregnant women	>11	10-10.9	7-9.9	<7
Children (12-14years old)	>12	11-11.9	8-10.9	<8
Children (5-11years old)	>11.5	11-11.4	8-10.9	<8
Children (6 month - 4years old)	>11	10-10.9	7-9.9	<7

### How to overcome anemia by home remedies

#### Foods to Eat For Anemia

##### Fruits

- **Apples** - Apple contain antioxidant propetires and it contain such proteins and such nutrients that may act on digestive tract. It also contain Vitamin C.

- **Tomatoes** - Tomatoes contain vitamin C. we eat one or two tomatoes eat daily that may increase vitamin c in body. and that may helps to absorption of iron. Tomatoes great to eat when treating anemia.
- **Plums**- plums contain Calcium, Magnesium, Phosphorus, Potassium, Vitamin C, Vitamin A.
- **Bananas** - Banana and honey is very beneficial in treating anemia. Banana and honey is taken together that may increase the folic acid vitamin B12. It is extremely beneficial to treat anemia.
- **Lemons**- lemon is great source of vitamin c and it is also contain small amount of iron. It is help to increase the absorption of iron. That may helps to treat anemia.
- **Oranges** - orange is great source of vitamin c and it is also contain small amount of iron. It is help to increase the absorption of iron. That may helps to treat anemia.
- **Honey**- Honey is naturally occurs. Honey is a source of iron, copper. It is very effective in increase the level of hemoglobin. Honey is thereby the strongest weapon against anemia.
- **Meats**- kidney, heart and liver in red meats is essential to cure anemia. Meats contain Vitamin B12. when patient is suffering from the vitamin b12 deficiency, meats is very useful to increase the level of vitamin b12.

### **Vegetables**

#### ➤ **Spinach**

Spinach is most popular vegetable that treat the anemia. It directly contain iron, and iron is essential to increases the level of hemoglobin. it is also contain some amount of vitamin c that may helps to absorption of iron to the food.

#### ➤ **Beet**

beetroot is effective in increases the RBC, when RBC is increases the oxygen supply also increases thorough out of the body.it is also very useful to treat anemia.

#### ➤ **Broccoli**

Broccoli is antioxidant proprties, and it also contain some vitamins. Vitamin C helps to absorb the iron. It is help to prevent anemia.

#### ➤ **Celery**

Celery is iron rich food that may increses the red blood cell. It is help to prevent anemia.

This vegetables that are iron-rich, vegetables that cure anemia. Fruits and vegetables not only provide iron but also vitamin B 12, Folic acid and they also help to increase strength. Beet juice helps to increase blood.

### **Legumes and Nuts**

- **Legumes and nuts**- Legumes and nuts contain iron. Nuts contain non heme-iron
- **Pulses**- pulses that improve the health and it contain good amount of iron. In that red kidney beans and white beans have the highest iron content.
- **Almonds**- Almonds is best home remedies to treat anemia caused by red blood cell carrying less oxygen supply to body. It is play a vital roll in anemia.
- **Whole grain**- whole grains are increase the hemoglobin level
- **Cereals**- Cereals are play vital roll in transportation of oxygen thorough out the body.
- **Dry dates**- Dry dates are very effective in treatment of anemia because it contain iron. dates are help to absorption of iron. It is used in iron deficiency of anemia
- **Peanuts and walnuts** - peanuts and walnuts are cure the symptoms and causes of anemia. Nuts contain high amount of Iron that improve Hemoglobin

### **Dietary and lifestyle changes for anaemia patient as per ayurveda**

**Dietary Modifications for all Patients:** Increase in dietary iron intake. Common iron rich foods are: Spinach, fenugreek leaves and other green leafy vegetables, soyabean, watermelon, legumes, red meat, chicken, fish, etc. Common vitamin C rich foods are: Amla, green leaves, cauliflower, cabbage, fruits and fruit juices, etc.

cow's milk intakeof daily is 500 mL. Avoid the following substances that are inhibitors of iron absorption: Food: e.g., tannins in coffee and tea, milk and dairy products, phytates in cereals Drugs: e.g., calcium, quinolone and tetracycline antibiotics, antacids, PPIs Infants < 1 year old: Cow's milk.

### **Do's**

- old rice, mung bean and masura.
- fruits and vegetables such as carrots, bananas, sugarcane juice, garlic, beetroot, methi, spinach, draksha.
- Include turmeric, shunthi, jaggery and honey in the diet.

**Don'ts**

- Avoid eating black gram, beans, sour substances, mustard and hing
  - Insomniac.
  - Avoid exposure to the sun, Stress and anger
  - Do not smoke or consume alcohol.
  - Do not control natural things such as urination, bowel movements etc..
  - Avoid extra physical activity
- 
- **Numbers of preparations are available in Ayurveda for correction and treatment of anemia/ pandu in different condition.**

Drug as follows:

1. **Pimpli**
2. **Gomutr**
3. **Kutki**
4. **Trifala**
5. **Kiratikt**
6. **Haritki**
7. **Punarnava**
8. **Arogyvardhini vati**
9. **Chandraprabha vati**
10. **Ela powder**
11. **Rajani**
12. **Trikatu**
13. **Chitrak**
14. **Guduchi**
15. **Vasa**
16. **Amalaki**
17. **Kumariyasav**
18. **Shunti churna**
19. **Dhatri lauha**
20. **Dadimadi ghrita**

✓ **Pimpali/Pippali****Uses**

- ✧ Pimpali is anti-anemic churn that gives immuno action and natural or synthetic substance that prevents delay of some type of cell damage
- ✧ This drug is used in spleen.
- ✧ Pimpali is used when spleen and liver are hampered, specifically spleen.
- ✧ Pimpali is given with honey.

✓ **Gomutr****Uses**

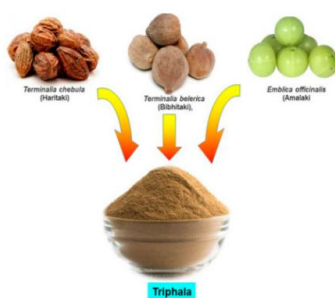
- ✧ Gomutra gives the medicinal properties. Gomutra anti-anemic churn that gives immuno action and natural substance that prevents delay of some type of cell damage.
- ✧ As it increases extracellular fluid which helps to dissolve the obstruction because it is naturally moist. Then the swelling decreases.
- ✧ Cow urine works well in cough dominant.
- ✧ Gomutra is given with ghee, water, yogurt.

✓ **Kutki**

### Uses

- ✧ Kutki is anti-anemic churn action.
- ✧ And it is natural substance that prevent on delay of some type of cell damage
- ✧ Kutki is use in when chronic hyperacidty happen to the patient. Kutki is used in the pitta type of anemia.
- ✧ Kutki works on liver when liver gets hamper kutki is used.
- ✧ Kutki is given with honey to the patients.

### ✓ Trifala



### Uses

- ✧ Triphala is the mixture of three churna i.e Haritki, Bhibhitak, and amalaki
- ✧ Triphala have appetizing agent that are increase the appetization of the patient.
- ✧ And its is carminative agent that reduces the gastrointestinal problems, its improve tha digestion power and give the ultimately absorption of churna or drugs
- ✧ when pitta and liver gets hamper trifala is used.
- ✧ Triphala is given with water and ghee.

### ✓ Kiratikt/kadechirayt



### Uses

- ✧ Kiratikt is anti anemic agent or churna that are quite good for anemic patient. It is help to increase the red blood cell. Kiratikt is used in kaphaj and pittaj type of anemia.
- ✧ The food substances that increases cough and pitta that time kiratik is used.
- ✧ Kiratikt of kadechirayat is given with water, and ghee.

✓ **Haritki****Uses**

- ✧ Cough, Insomnia
- ✧ eating sweet, Polyphagia
- ✧ Haritki is acts as laxative which help in reliving of constipation mainly in old age
- ✧ In this stage due to overheating the people who HB is low, haritki will used.
- ✧ Haritki fruit is cure anaemia.
- ✧ Haritki churna is taken with warm water or guda (jaggery).
- ✧ It is contraindicated in pregnancy.
- ✧ Haritki is also used as an ingredient in triphala churna.

✓ **Punarnava**

- ✧ Punarnava is anti-anemic churn thats give immuno action and natural or substance that prevent on delay of some type of cell damage.
- ✧ Punarnava is helps to improve the digestion. its balance the pitta type. That ay cause increase the level of haemoglobin.
- ✧ Punarnava is give the digestion properties. and punarnava is help to decreases the symptoms of anemia.
- ✧ Punarnava is given with milk and water.

✓ **Arogyavardhini vati**



- ✧ Arogyavardhini vati is helps to improve the digestion. its balance the pitta type. That ay cause increase the level of haemoglobin.it is also use in chronic diarrhea.
- ✧ Arogyavardhini vati is helps to reduces fever and symptoms like anemia.
- ✧ Arogyavardhini vati is given with water with honey and neem juice.

✓ **Chandraprabha vati**



- ✧ Chandraprabha vati is the benefical for the treatment of jaundice, Anemia, insomnia, headache,
- ✧ Chandraprabha vati is anti inflammatory property and analgesic property.
- ✧ Chandraprabha vati is given with honey, milk, water.

✓ **Ela powder**



- ✧ Ela powder is give antioxidant properties.
- ✧ Ela powder is in treatment of cough.



- ✧ And it is also used in the improve indigestion.
- ✧ Ela powder is given with water and honey.

✓ **Rajani**



- ✧ Rajani is also known as haridra. Rajani is anti-anemic agent. That are increase the absorption of iron in gastrointestinal tract.
- ✧ And is also anti inflammatory properties.
- ✧ It is traditional medicine system. Rajani gives antioxidant properties that protect from the cell damages.
- ✧ Haridra or Rajani given with water and medicated ghee and normal ghee

✓ **Trikatu**



- ✧ Trikatu is anti anemic agent. That are acts on liver when liver get hampered.
- ✧ Trikatu is help to breakdown food and digest properly. And its improve the digestion.
- ✧ Trikatu is given with honey and warm water

✓ **Chitrak**



- ✧ Chitrak is anti anemic agent that are cure jaundice, weakness. chitrak also gives antioxidant properties.
- ✧ It is used when pitta and vata get hampered. its also used in constipation.
- ✧ chitrak is used against painful piles when bleeding out by stool.

✧ Chitrak is given with honey.

✓ **Guduchi**



✧ Guduchi is used in pitta and vata. Guduchi contain proteins such as iron, calcium.

✧ It is also given in the form of gutika or vati.

✧ Guduchi is given with honey.

✓ **Vasa**



✧ Vasa is anti-anemic agent that prevent cough like symptoms in condition of anemia.

✧ Vasa is given with warm water.

✓ **Amalaki**



✧ Amalaki is improve the digestion. when patient has loss of appetite. amalaki is also used in jaundice, and weakness.

✧ Amalaki is given with warm water.

✓ **Kumariyasav**

- ✧ Kumariyasav is in liquid form that helps to increase the hemoglobin level. It improves the digestion when a patient is suffering from loss of appetite.
- ✧ Kumariyasav is also used in pitta as a dominant factor.
- ✧ Kumariyasav is given with water.

✓ **Shunti Powder**

- ✧ Shunti powder is useful in anemia; it treats anaemia caused by jaundice.
- ✧ Shunti powder improves digestion.
- ✧ Shunti powder is given with jaggery.

✓ **Dhatri lauha**

- ✧ Dhatri lauha is prepared by two main ingredients, i.e. amalaki and lauha. Dhatri is used in the treatment of anemia.
- ✧ Dhatri lauha is given with honey and water.

✓ **Dadimadi Ghrita**



- ✧ Dadimadi ghrita is medicated ghee. It is prepared by some churna i.e coriender, pippali, dadimadi and ginger. It is prepared by infusion method.
- ✧ Dadimadi ghrita is used against pitta. That overcome the pitta. Dadimadi ghrita ingredient are effective in gastrointestinal tract. And that is increase the improve of digestion.

**Main Drug Is Used For The Treatment of (Pandu) or Anemia**

✓ **Mandur Bhasm**

✓ **Loha Bhasma**

**1. Mandur Bhasm**

**Procedure**

- Old Iron Rust (Ferric Oxide or red iron oxide)
- Triphala Decoction (Powdered myrobalan tincture of amla, haritaki and bibhitaki)
- Aloe Vera Juice
- Cow's Urine

**How Mandur Bhasma Is Prepared?**

- Mandur - rust is produced from processing in different plants.
- It is heated in the fire until the powder form and ayurvedic criteria are fulfilled.
- After that, this powder is mixed and ground with Cow's Urine and Aloe Vera juice.
- This drug is used in patients who need to increase their strength

**Symptoms of Anemia**

- ✓ fatigue,
- ✓ physical weakness
- ✓ discoloration of the skin,
- ✓ shortness of breath,
- ✓ dizziness,

- ✓ swelling
- ✓ headaches.

**Dosage:** The effective therapeutic dosage of Mandur Bhasma may vary from person to person depending upon the age, body strength, effects on appetite, severity, and condition of the patient.

**Adults:** 125 to 375 mg,

**Side Effects:** Mandur Bhasma is extremely beneficial in proper therapeutic dosage and does not have any reported side effects.<sup>[6]</sup>

## 2. Loha Bhasma

Iron Mineral - The Ayurvedic Way: Loha Bhasma (Iron Ash)

### PROCEDURE

- ✓ Purified Iron
- ✓ Cow urine
- ✓ Water

### How Mandur Is Prepared?

#### Method

- ✓ Add 800 ml of cow urine to 100 grams of water
- ✓ Boil and reduce it to 200 ml
- ✓ Filter the solution
- ✓ Use the decoction method to purified iron for 21 days.<sup>[7]</sup>

Bhasmas have the ability to penetrate certain parts of the body very well.

## CONCLUSION

The review of this article concludes that the administration of ayurvedic drugs shall be the most effective approach for preventing and management anemia in various age groups. The major advantage with these ayurvedic formulations is that they are considered safe and do not have any adverse effects. They can be incorporated and promoted at all levels of health care along with the treatment of allopathic drugs for the control and prevent anemia. This study stresses the importance of two Ayurveda medications. Loha bhasma and mandar bhasma could effectively improve Hematological parameters. Improvements not only sustained in most of the parameters but also progressed in few of the parameters during the drug withdrawn observational period. Hence, these ayurvedic medications can play a role in refining the current strategies for anemia management and prevention.

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