



Case Series

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MANDOORA AMALAKI AS A DRUG OF CHOICE IN PANDU (IRON DEFICIENCY ANAEMIA): THE CASE SERIES

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ABSTRACT

Iron deficiency anaemia is one of the burning issues in developing countries, especially in females, where haemoglobin levels are consistently low. Anaemia occurs when iron losses or physiological requirements exceed absorption. Causes are such as blood Loss, mal absorption, increased physiological demands. Decreased absorption in conditions like post-gastrectomy, poor intake, etc. Iron deficiency anaemia is very commonly seen in females. Globally, 30% of the total world population is anaemic, and half of these, some 600 million people, have iron deficiency. In Ayurveda, anaemia is compared with Pandu roga, in which we see similar symptoms to anaemia. Women and young children are most commonly affected. According to Ayurveda, the word Pandu denotes Pale or yellowish-white colour. Pandu Roga (resembling anaemia) is a disease in which purusha becomes pallor due to deficiency of Rakta Dhatu (Blood) in the body. Rakta Dhatu is one among the saptadhatu of the body. In the present case series, patients with low haemoglobin levels are selected with anaemic signs and symptoms along with classical signs and symptoms of Pandu vyadhi, and those patients are administered mandoora bhasma 250mg with 3gm of Amalaki choorna along with a bolus of food twice daily. After a one-month duration, the patient was again sent for haemoglobin investigation to assess changes. The mandoora amalaki combination showed significant changes in haemoglobin level in all cases. There is significant reduction in the other symptoms of anaemia too. Individually, mandoora and amalaki are indicated in Pandu as per the reference of Rasa Tarangini and Bhavaprakasa, respectively.

Keywords: Mandoora, Amalaki, Pandu, Haemoglobin, Iron deficiency anaemia.

INTRODUCTION

Anaemia is present when the level of Hb in the blood decreases below the reference level for the individual's age and sex. Alteration in the level of haemoglobin may occur as a result of changes in the plasma volume. A reduction in the plasma volume will lead to spuriously high haemoglobin – this is seen with dehydration and in clinical conditions of stress polycythaemia. A high plasma volume, such as in pregnancy, may produce a spurious anaemia¹

Iron is required for various cellular functions, including but not limited to enzymatic processes, DNA synthesis, oxygen transport and mitochondrial energy generation.^{4,5} As such, the symptoms of Iron deficiency anaemia can vary over a wide range. Shortness of breath, fatigue, palpitations, tachycardia and angina can result from reduced blood oxygen levels. This resultant hypoxemia can subsequently cause a compensatory decrease in intestinal blood flow, leading to motility disorder, malabsorption, nausea, weight loss and abdominal pain. Central hypoxia can cause headaches, vertigo and lethargy as well as cognitive impairment with several studies showing an improvement in cognitive functions once anaemia has normalised.⁶⁻⁹ It is well known that Iron deficiency anaemia significantly affects quality of life (QOL)⁹ with recent evidence demonstrating that treating Iron deficiency anaemia improves QOL, regardless of the underlying cause for anaemia.

Iron-deficiency anaemia will develop when there is inadequate iron for haemoglobin synthesis². Iron-deficiency anaemia occurs when iron losses or physiological requirements exceed absorption. Causes include blood Loss, malabsorption, increased physiological demands³, decreased absorption in conditions like post-gastrectomy, and poor intake⁴.

Clinical features are brittle nails, spoon-shaped nails (koilonychia), atrophy of papillae of tongue, angular stomatitis, brittle hair⁵.

Globally, 30% of the total world population is anaemic and half of these, some 600 million people, have iron deficiency. The classification of anaemia by the size of red cells (MCV) is logical and indicates the likely cause. Red cells in the bone marrow must acquire a minimum level of haemoglobin before being released into the bloodstream. If red cells cannot acquire haemoglobin at a normal rate in the marrow, they will undergo more divisions than normal and will have low MCV when finally released into the bloodstream⁶.

Iron-deficiency anaemia affected about 1.48 billion people in 2015.⁷ A lack of dietary iron is estimated to cause approximately half of all anaemia cases globally.⁸ Women and young children are most commonly affected.⁹ In 2015, anaemia due to iron deficiency resulted in about 54,000 deaths – down from 213,000 deaths in 1990.¹⁰

WHO Global Anaemia estimates, 2021 Edition, prevalence of anaemia in women aged 15 – 49 years is 29.9%, in children aged 6 -59 months is 39.8%, and 60.2% of children in the African region were affected by anaemia in 2019¹⁰ Diagnosis is confirmed by blood tests.

Patients may present with signs of pallor (reduced oxyhaemoglobin in the skin or mucous membranes) and symptoms of feeling tired, weak, dizzy, light-headed, unable to perform physical exertion, headaches, decreased ability to concentrate, cold hands and feet, cold sensitivity, increased thirst, and confusion. It may be accompanied by other symptoms, such as hair loss and thinning, cracked and dry lips, and dark circles around the eyes.

According to Ayurveda, the word Pandu denotes Pale or yellowish white colour. Pandu Roga (resembling anaemia) is a disease in which purusha becomes pallor due to deficiency of Rakta Dhatu (Blood) in the body. Rakta Dhatu is one among the saptadhatu of the body.

Pandutwena upalakshito rogah pandurogah |¹¹

As per Ayurveda, Pandu is a vyadhi caused by increased pitta dosha pradhana three dosha due to intake of kshara, amla (excessive intake), lavanarasatmaka (excessive intake) ahaara, atyushnaviruddhaasatmyaahaara etc, which in terms leads to dhatu pradushana which is going to cause shaithilyata in dhatu leading to gouravata, varna kshaya, snehakshaya, ojasagunakshaya in the shareera¹².

Mandoorabhasma amalaki: Mandoorabhasma is an Ayurvedic medicine prepared by subjecting iron oxide to a specified method of purification and incineration. It is used in the treatment of pandu¹³. Amalaki is herbal medicine which is having rasayanaguna and said to be thridosha hara¹⁴.

Mandooram sumrutamvrushyamshishiramruchiram param |
Dipanam pittashamanamraktavruddhikaram param ||
Paandupramattamaatangamadamardanakeshari || (ra ta 2 /132-133)¹³

Haritakisamam dhatriphalamkintuvisheshataha |
Raktapittapramehagnamparamvrushyamrasaayanam ||
Hantivaatamtadamatwaatpittam maadhuryashaityatataha |
Kaphamrukshakashaayatwaphalam dhaatryaastridosghajit ||
(bhapraharitakyadivarga page 10)¹⁴

Series of Anaemia case Report

Case 1: A patient aged 27 years female from Hallikhed, married, visited Swasthyasindhu OPD on September 01/7/2022 with the following complaints: loss of appetite, mild pedal oedema, dyspnoea.

On examination - Pale conjunctiva, sore tongue.
Patient was advised for blood investigation.
On report, her haemoglobin was 8 g/dL.

Case 2: A 16-year-old female patient from Hallikhed, unmarried, visited Swasthyasindhu OPD on August 08/8/2022 with the following complaints: loss of appetite, dyspnoea, irritability, palpitations since one month.

Associated complaints - Hair fall since three months, reduced menstrual flow since 2 months.
On examination - mild pedal oedema, pale conjunctiva, bulbar oedema.
Patient was advised for blood investigation.
On report, her haemoglobin was 7 g/dL.

Case 3: A 25-year-old female patient from Hallikhed, married, visited Swasthyasindhu OPD on September 01/9/2022 with the following complaints: loss of appetite, tinnitus, mild pedal oedema.

On examination - Pale conjunctiva, beefy tongue.
Patient was advised for blood investigation.
On report, her haemoglobin was 6.5 g/dL.

Case 4: A 45-year-old female patient from Hallikhed, married, visited Swasthyasindhu OPD on October 03/10/2022 with the following complaints: loss of appetite, generalised weakness, and dyspnoea.

On examination - Pale conjunctiva, beefy tongue.
Patient was advised for blood investigation.
On report, her haemoglobin was 8 g/dL.

Case 5: A 32-year-old female patient from Hallikhed, married, visited Swasthyasindhu OPD on November 08/11/2022 with the following complaints: irregular menses with reduced flow in the past 4 months, loss of appetite, generalised weakness on and off. Associated complaints - calf muscle cramps

On examination - Pale conjunctiva, pale tongue, and bulbar oedema.
Patient was advised for blood investigation.
On report, her haemoglobin was 7.5 g/dL.

Treatment plan

Prescribed - Mandoora bhasma with amalaki churna as sahapana. Half spoon Amalaki Churna was given with 2 ratti mandoora bhasma along with food, with the last bolus of rice twice.

Patient was asked for follow-up after one week.
Patient has improvement with good appetite, increased intake in quantity of food. Improved general strength.

Again, the patient was asked for follow-up after two weeks with the same medicines.

In the second follow-up, the patient has reduced symptoms, except hair fall.

Again continued with same medicines.

Revised treatment during second follow-up and advised to undergo haemoglobin investigation.

Hb was 10.5 g/dL.

The patient was continued on the same medication.

As Mandoora and Amalaki are Panduhara and rasayana, it played a major role in curing the condition. Even in Charaka, we have a reference as ayorajaha panduharanam.

Table 1: Overall improvement in the Haemoglobin in all the 5 cases

Date	Cases	Before treatment	After treatment
1/7/2022	Case 1	8	10.5
8/8/2022	Case 2	7	10.9
1/9/2022	Case 3	6.5	9
3/10/2022	Case 4	8	11.5
8/11/2022	Case 5	7.5	10

DISCUSSION

The primary cause of Pandu Vyadhi is an aggravated Pitta dosha. This excess heat (tikshna guna) circulates through the Rasavaha and Raktavaha srotas (circulatory channels), causing tissue laxity (dhatu shaithilya)¹⁸ and damaging blood cells.

Unlike other sour fruits that aggravate Pitta, Amalaki uniquely pacifies Pitta due to its Shita Virya (cooling Potency) and Madhura Vipaka (sweet post-digestive effect). It directly does the

shamana of prakupita Pitta, reducing systemic tissue inflammation and stabilizing raktavaha srotas.

Ayurveda classifies Amalaki as swayonivardhana for blood, meaning it inherently matches and multiplies the qualities of Rakta Dhatu. Through its Shonitasthapana (blood-building and bleeding-arresting) property, it stimulates the bone marrow and liver (ranjaka pitta) to increase the synthesis of healthy, functional red blood cells. Its laghu (light) and ruksha (dry) physical properties allow it to penetrate, scrape away, and clear blockages within the rasavaha and raktavaha srotas. This opens up the pathways, ensuring that the essence of digested food smoothly reaches the sites of blood production. Amalaki acts as a potent bio-enhancer. Its exceptionally high Vitamin C (ascorbic acid) and organic acid content reduces ferric iron to ferrous iron in the gut. This biochemical transformation makes plant-based and mineral iron highly soluble, dramatically multiplying the body's iron absorption and cellular uptake

As per Acharya Charaka, Amalaki, which is Rasayana, Vayasthapana, Virechanopaga, Deepana, Pachana, Tridosahara, especially Pittashamakadravya, acts on Dhatu Shithilata¹⁸ mandoora (ayomalaha panduharanaam) as a drug of choice in Pandu. Rasatarangini mandoora bhasma is said to have Panduharatva guna. It is said to be shishira, that is sheeta virya, which is going to subside pitta dosha, which is the main dosha in causing Pandu vyadhi as per Ayurveda. When we go through other references, mandoora bhasma is said to have equal qualities to loha bhasma. Loha bhasma is tikta rasa, sheeta virya in terms of which it acts as pitta hara; mandoora is given with sahapana of amalaki because it is going to play as the best catalyst in helping mandoora to reach its site of action, and even amalaki is said to possess the above-said qualities.

In all the five cases, it is observed that there is an increase in haemoglobin at different rates; in some cases, it is observed that there is a significant increase in haemoglobin within a month, which shows that the rate of absorption of iron is different in individual cases; it may be because of the nidana sevana by individual patients. In some cases, there is no obstruction, so the drug directly shows its action by reducing pitta pradhana tridosha, with a significant increase in haemoglobin, reduction of symptoms, and improvement in quality of life.

Amalaki rasayana/AR (obtained from the fruits of *Phyllanthus emblica* or *Emblica officinalis*; Family: Euphorbiaceae, Ayurvedic name: 'Amla') is an Indian traditional Ayurvedic drug used as a rejuvenating medicine in ageing conditions. The fruits of Amla commonly used in Ayurveda are assumed to enhance defence against diseases. Ayurveda literature mentions Amalaki to have a beneficial role in cancer, diabetes, liver and heart diseases, gastric ulcers and various other disorders. Amalaki rasayana has antioxidant, immunomodulatory, antipyretic, analgesic, cytoprotective, antitussive and gastroprotective actions. It is also used for memory enhancement and for lowering blood cholesterol levels. Reports from various scientific studies suggest that its consumption also protects tissues against radiation damage.²⁰⁻²¹

CONCLUSION

All patients have shown significant improvement in haemoglobin percentage, and there was marked improvement in almost all signs and symptoms; hence, we have come to the conclusion that administration of Mandoor amalaki improves the level of haemoglobin and complaints regarding Pandu. In case 2 as patient is female 16 years old with haemoglobin 7 was presented with more symptoms, typically with hail fall, which is been improved

after two months of regular intake of medicines even though there is increase in number of haemoglobin cells, but the rasayana effect of Amalaki was found after regular intake for the duration of 2 months which shows that for the rasayana effect there is a need of samprapti vighatana of Pandu first by regular intake of medicine. Once the desired increase in haemoglobin is achieved, there is further poshana of uttara dhatu, which yields prashasta dhatu (Rakta), that is the rasayana effect. Where poshana of all dhatu is achieved by Rasayana effect of Amalaki.

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