

**AN AYURVEDIC MANAGEMENT OF IMMUNE
THROMBOCYTOPENIC PURPURA- A CASE STUDY**

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ABSTRACT

Immune thrombocytopenia (ITP) is an autoimmune hemorrhagic disease characterized by low platelet count and bleeding manifestations. However, some patients also suffered from atherosclerosis or even infarction. Clinical manifestations include purpura, petechiae. Majority of ITP patients are not getting reliable and durable remissions with modern medicine. The present case report deals with an elderly patient having chronic ITP approached for *Ayurvedic* treatment. Patient came with extremely low platelet count (85000/uL) was diagnosed as *Tiryakgata Raktapitta* and *Ayurvedic* treatment has been provided. *Ayurvedic* formulations *Raktastambhaka Vati*, *Punarnava mandura*, *Samshamani Vati*, *Madhumalini rasa*, etc) have improved the platelet count (from the lowest count of 85000/uL to highest count of 10000/uL) hematological indices and quality of life in present case.

Petechiae were completely disappeared without any further recurrences. *Ayurvedic* treatment seems to be promising in the management of chronic ITP and generates hope for those patients who are having extreme thrombocytopenia, reluctant for corticosteroids and invasive diagnostic procedures like bone marrow biopsy, and not satisfied with the available therapy from other systems of medicine. ITP has manifested due to the consequences of malarial fever (*Visham Jwara*). Further clinical trials with large sample size are required to substantiate the

present case study findings.

KEYWORDS: Thrombocytopenia, *Vishama jwara*, ITP, purpura, *Raktapitta*.

INTRODUCTION

Immune Thrombocytopenic Purpura (ITP) is a hematological disorder for which appropriate diagnostic and treatment strategies are uncertain. characterized by thrombocytopenia (platelet count less than 150,000/mcL). The course is more chronic in adults associated with higher mortality in older patients.^[1] Thrombocytopenia is a clinical entity in which the platelet count in blood decreases below normal level, consequently manifesting spontaneous haemorrhages. The manifestations further include petechiae, bruises, malaise, fatigue, generalized weakness etc. The normal platelet level in adults is between 150,000 and 450,000/mm³. Platelet counts below 50,000/mm³ increase the risk of dangerous bleeding from trauma; counts below 20,000/mm³ increase the risk of spontaneous bleeding.^[2]

According to Ayurveda, ITP is a bleeding disorder where in the blood (*Rakta*) vitiated by Pitta flows out of the orifices of the body.^[3] This disease entity is included in *fourty nanatmaj vyadhis* of Pitta dosha. It is also included in the list of *Raktaj Vyadhis*. This disease is categorised as *Mahagada* or *Maharoga* as its attacks are severe and acute like that of fire. Charakacharya has described *Raktapitta* chapter immediately after *Jwara* as it arises due to the result of *Santapa*, which is *Pratyatma Lakshana* of *Jwara*. But Sushruta Acharya has described it after discussing *Pandu Roga* due to their common causative factors. All the signs and symptoms of thrombocytopenia can be equated with those of *Raktapitta*, which is vividly elaborated in Ayurvedic texts. The *lakshanas of Urdhwaga, Adhoga and Ubhaymargag Raktapitta* show a close resemblance to the symptoms developed by thrombocytopenia.^[4] ITP is correlated to "*Tiryaka Raktapitta*". Due to the excessive consumption of hot, bitter and sour things, the impairment in *Pitta dosha* takes place which combines the blood tissue. Pitta dosha vitiated the blood which leads to the generation of heat in the blood which destroys the blood cells. In this disease, all three doshas of the body *Vata, Pitta* and *Kapha* get vitiated which are circulating in the bloodstream and attacks the platelet cells in the body. It leads to a reduction in platelet cell count.^[5,6]

Treatment of ITP depends on the severity of its symptoms. Ayurveda treats ITP naturally.

According to Ayurveda, a sedentary lifestyle and wrong diet is the main cause of every

disease.

That is why Ayurveda focuses on diet and lifestyle changes to relieve symptoms and problems and herbs are also provided to treat the disease naturally without any side effects. For ITP, there are also various herbs that regulate immune function and increase platelet count in the body. The patient is also given a special diet chart to control ITP disease. The main aim of these herbs is to reduce pain, inflammation occurs due to ITP.

MATERIALS AND METHODS

Case description

A 34 year old female patient (opd no.27358) came to our hospital (25.08.2023) was diagnosed as having chronic ITP and the investigation reports have revealed low platelet counts/severe thrombocytopenia (85000/uL), elevated erythrocyte sedimentation rate (ESR) levels (49mm/hr), positive Anti-nuclear antibodies (ANA) and hemoglobin (11.4 g/dL) levels. Patient having symptoms joint pain, tingling and numbness in both legs, General weakness, Headache. Patient having history of Menorrhagia, Petechiae, Hair loss. All these signs & symptoms have started insidiously and they were gradually progressive. Previous history has revealed that the patient got hospitalized (12.06.2023 to 17.06.2023), received intravenous (IV) fluids, antibiotics, antacids, antipyretics, antimalarial drugs.

Patient has no history of any metabolic disorders. Patient was non smoker, non alcoholic and doesn't have positive family history for any autoimmune disease. Patient is not having any drug or food allergy. Initially, patient has approached a Physician and the physician has started anticoagulant drug after doing all the necessary investigations. Patient was not willing to take oral corticosteroids with the fear of their side effects. Due to this reason, the patient has approached us (25.08.2023) for Ayurvedic treatment in the hope of better and sustained relief.

The patient denied any history of epistaxis or bleeding from natural orifices, trauma, or surgery, fever, night sweats and weight loss. There is no positive family history of bleeding disorders.

There was no hepatosplenomegaly and lymphadenopathy. There is no history of tenderness, joint swelling, and mucocutaneous bleeding. Heart rate, respiratory rate, blood pressure, SpO₂, body temperature and other vital signs were within normal limits. The patient having weight

(61kg).

The investigation reports have revealed extremely low platelet counts (85000 to 100000/mcL), elevated ESR levels (38mm/hr), positive ANA, hemoglobin (11.4g/dL) levels. Peripheral smear has revealed reduced number of platelets along with plenty of giant platelets. HIV I & II, HBsAg and HCV I & II were negative.

The secondary causes of ITP should be excluded such as leukemia, systemic lupus erythematosus (SLE), medications, cirrhosis, HIV, HCV, antiphospholipid syndrome, Von Willebrand factor deficiency etc. Bleeding time is prolonged in ITP patients. A bone marrow examination may be performed when the diagnosis is in doubt. Detection of antiplatelet antibodies in the blood is considered to confirm the diagnosis of ITP.^[3] but according to some other studies the measurement of platelet-associated antibodies is not helpful as it lacks both specificity and sensitivity.^[2] In present case, the diagnosis of chronic ITP has been made based on the clinical features and investigation findings. Due to the patient's unwillingness bone marrow biopsy has not been conducted. Ayurvedic diagnosis of *Tiryak Raktapitta* has been made based on the clinical feature. No assessments were carried out except laboratory investigations (platelet counts and other hematological indices). Ayurvedic treatment was planned and implemented by considering age of the patient, lifestyle, bleeding risk and patient preference.

Some patients may display oral hemorrhagic bullae (wet purpura). Fatigue is an underappreciated symptom in patients with ITP. Significant improvements in several health-related quality of life measurements and also in fatigue have been observed in successfully-treated patients.^[7]

Table 1: General Examination.

Pulse	88 beats/minute, Regular
BP	130/80 mm Hg
R.R.	18/min
Temperature	99.1 ⁰ F
Height	163 cm
Weight	61 kg
Appetite	Good
Bowel	Clear
Micturation	5-6 times a day, 1 times at night
Sleep	Disturbed
Tongue	Pallor

Addiction	Nil
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Table 2: Laboratory Investigations.

Date.	Name of investigation	Report
12/06/2023	LFT (total bilirubin, direct & indirect bilirubin, SGOT (AST), SGPT (ALT), ALP, total protein, serum albumin, globulin and A/G ratio)	WNL
	Malaria antigen test (MP/PF)	NEGATIVE
	Random plasma glucose	140mm/hg
	Serum electrolytes (Sodium -Na ⁺ , Potassium - K ⁺)	WNL
	Urine analysis (color, appearance, specific gravity, pH, protein, sugar, ketone bodies, nitrites, leukocytes, urobilinogen and urine bilirubin)	WNL
	Urine microscopic examination (pus cells, epithelial cells and RBC) Urine culture & sensitivity	WNL
	Total count & Differential count (total leukocyte count, neutrophils, lymphocytes, eosinophils, monocytes);	WNL
25/08/2023	Hemoglobin	11.4g/dl
	Blood group	"o"
	Rh factor	Positive
	Dengue IgG, IgM, NS1 rapid test	Negative
	IDV rapid test (HIV I & HIV II)	Non reactive
	HbA1C	5.3%
	CRP	
	LFT, sr. creatinine	WNL
	Platelet count	85000/uL
	ESR	36mm/hr
	HBsAg card test & Anti HCV rapid test	Non reactive
	USG of abdomen	No abnormality detected

Table 3: Treatment.

NO.	MEDICINES	DOSE WITH ANUPAN
1]	<i>Madhumalini Vasant Rasa</i> (125 mg)	Twice a day before meal with water.
2]	<i>Raspachak vati</i> (500 mg)	Twice a day after meal with water.
3]	Tb. Platenza (250) mg)	Twice a day after meal with water.
4]	<i>Punarnavasav</i> (20 ml)	Twice a day after meal with water.
5]	<i>Punarnava Mandura</i> (250 mg)	Twice a day after meal with water.
6]	<i>Sutashekhar Rasa</i> (125 mg)	Twice a day after meal with water.
7]	<i>Chandrakala Rasa</i> (125 mg)	Twice a day after meal with water.
8]	Syp. Haemtone (20 ml)	Twice a day after meal with water.
9]	<i>Samshamani vati</i> Cap. Palsineuron (360mg)	Twice a day after meal with water.

DISCUSSION

Idiopathic thrombocytopenic purpura is the condition of having a low platelet count of no known cause. As most causes appear to be related to antibodies against platelets. Platelet

counts below 50,000/mcL increase the risk of bleeding from trauma and counts below 20,000/mcL may cause spontaneous bleeding. ITP may be either acute or chronic.^[8] Incidence of ITP is around 3/100,000 person-years, both persistent (more than 3 months duration after diagnosis) and chronic ITP (more than 12 months duration after diagnosis) affect 70% of adult patients.^[9] ITP comes under the domain of *Tiryakagata Raktapitta* and it is considered as *Yapya* (treatable but not curable). *Raktapitta* is *Mahagada* or *Maharoga* as its attacks are severe and acute.

Raktapitta disease mainly affects *Raktavaha Srotas* (blood vessels, heart, liver and spleen) and eventually leads to bleeding from various sites. Prognosis of *Raktapitta* depends on the association of Dosha, strength of the patient, track involved in bleeding, and severity of symptoms. *Pandu Roga* (anemia) is a complication of *Raktapitta*. Both *Shodhana* (purificatory) and *Shamana Chikitsa* (pacifying therapy) are mentioned for *Raktapitta* and they should be implemented by considering various factors such as patient's age, comorbidities, physical strength, season etc.^[10] *Tiryakgata Raktapitta* is a *Tridoshaja* (three body humors) disease characterized by bleeding into skin pores or subcutaneous tissue.^[11]

The present case is one of the best example for *Nidaanaarthakara Roga* (a disease causing another disease) i.e., *Jwara/Vishama Jwara* (malarial fever) causing *Raktapitta* (ITP). Based on the purple patches (ecchymosis) on upper extremities, absence of bleeding from any other sites, the present case has been diagnosed as *Tiryakgata Raktapitta*. Ayurvedic treatment. *Shodhana* treatment was not planned as the patient was unfit due to *alpabala* also patient is not willing for *shodhan karma*. *Shamana* treatment is given by using the formulations that are having Pitta and Rakta Shamaka (pacifying) properties. *Putapakwa Vishama Jwarantaka Loha* (PVJL) tablets, *Mansapachak* tablets, *Platenza* tablets and *Samshamani Vati* were prescribed for the period of 15 days (25.08.2023 to 10.09.2023). Strict dietary restrictions were followed throughout the treatment and follow up period especially for sour, salty, spicy food items. *Platenza* tablets contain *Eranda Karkati* (*Carica papaya* leaf extract) along with *Bhudhatri* (*Phyllanthus maderaspatensis*), *Maricha* (*Piper nigrum*) and *Guduchi* (*Tinospora cordifolia*) and it is known to increase the platelet count along with symptomatic relief in dengue fever associated with thrombocytopenia.^[13] *Guduchi* is the only ingredient of *Samshamani Vati* and it is having *Jwaraghna* (antipyretic) and *Rakta Shamaka* properties.^[14] *Platenza* tablets were prescribed to improve the platelet count and *Samshamani Vati* has been prescribed for its *Rakta Shamaka* property. *Madhumalini Vasant Ras* contains Purified

cinnabar Zinc carbonate, *Lakucha swarasa*, *Marich churna*, *Curcuma zeodaria* used for maintaining the healthy functioning of the liver due to hepatoprotective properties. *Raspachak vati* is *Dipan-Pachan* (improves digestive fire), *Sangrahi* (reduces secretions of body tissues) and nourishes muscles very well. *Raspachak vati* improves the *rasdhatwagni* which ultimately improves the quality of *Rakta dhatu*.

Punarnavadi Mandura significantly improves the hemoglobin level and enhances total iron-binding capacity, thereby reducing the symptoms of anemia. In Ayurveda, iron-deficiency anemia is known as *Pandu rog*. It is caused due to an imbalance of *Pitta dosha*. Such imbalance can also lead to certain symptoms like weakness. *Sutashekhar Rasa* contains *Shuddha Parad Shuddha Gandhak*, *Shankha Bhasma*, *Dalchini* It help to improves the functioning of the stomach and aids in stomach care. It may help in mind care and help may help improve mental wellbeing. Capsule *Palsineuron* contains *Mahavatvidhwans Ras* (Generic Preparation) 60 mg, *Sameerpannag Ras* (Generic Preparation) 60 mg, *Ekanveer Ras* (Generic Preparation) 60 mg, *Sootshekhar Ras* (Generic Preparation) 60 mg, *Khurasani Owa* (*Hyoscyamus niger*) 60 mg, *Lajjalu* (*Mimosa pudica*) 60 mg. It is indicated for neuromuscular disorders of the central nervous system (CNS). No adverse effects were reported with the any of the above *Ayurvedic* formulations by the patient during treatment period. The patient got clinically meaningful improvement with *Ayurvedic* medicines especially in fatigue and general quality of life (though it was not assessed by using any measuring scale or questionnaire). *Chandraprabha vati* contains Camphor, *Vacha*, *Musta*, *Shilajit*, *Triphala* etc. may help in Cleaning the blood and improving oxygenation of the blood. Syrup *Haemtone* contains *Draksha*, *Punarnava*, *Amalaki*, *Musta*, *Sariva* etc. it is used to treat Anaemia.

CONCLUSION

Proper assessment should be done of *Raktapitta* patient having excess dosha who is weak and on normal diet. *Shodhan* and *langhan* are advised in patients who are strong with excess *Kapha*, *Pitta*, *Rakta* and *Mala*. In case of *Raktapitta* as any form of Thrombocytopenia *Raktadhatu* should be protected to every extent. Severity depends upon the cause and the blood loss, it can be assessed by the degree of shock and pallor, rapid thready pulse, low blood pressure, repeated vomiting of blood. Prognosis from this condition will depend upon the underlying cause and the clinical state of the patient.

Ayurvedic treatment has improved the platelet counts, hematological indices and quality of life in an elderly, chronic ITP (*Tiryakgata Raktapitta*) patient. When all the Doshas are

vitiated and are circulating in the blood stream, the manifestation is subcutaneous. Easy Bruising, petechial hemorrhage and hematoma in the subject of Thrombocytopenia, can be considered under this category due to involvement of all *Tridoshas*. Along with this, as there is involvement of spleen here in Thrombocytopenia, due to excess sequestration and production of antibodies against platelets there will be splenomegaly.^[12] Ecchymotic patches were completely disappeared without any further recurrences by Ayurvedic treatment. The present case of ITP (*Raktapitta*) is a good example for *Nidaanaarthakara Roga* as it has occurred due to the consequences malarial fever (*Vishama Jwara*). Ayurvedic treatment seems to be promising in the management of chronic ITP and generates hope for those patients who are having extreme thrombocytopenia, multiple comorbidities, reluctant (or unfit) for corticosteroids and invasive diagnostic procedures like bonemarrow biopsy, and not getting satisfactory relief in modern medicine. Though the present case study findings can't be generalized, further clinical trials with large sample size are required to substantiate the present study findings.

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