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MANAGEMENT OF IDIOPATHIC THROMBOCYTOPENIC PURPURA TO STUDY ROLE *ATRUSHKADI KASHAYA* IN REFERENCE TO *TIRYAK RAKTAPITTA*

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ABSTRACT

Idiopathic thrombocytopenic purpura is autoimmune disorder with decreased blood platelets. Major causes are autoimmunity, decreased bone production, increased splenic sequestration. Body produces antibody against its own platelets; result in internal bleeding, thrombocytopenic purpura and petechiae. In *Ayurveda* it can corelate with *Tiryak Raktapitta.* As there is no specific treatment in modern medicine for autoimmune disorders. *Ayurvedic* medicines may prove an important therapy in this disease. Idiopathic Thrombocytic Purpura can be controlled by using hepatoprotective drug, by decreasing capillary haemorrhage, enhancing immune system.

KEYWORDS : Idiopathic thrombocytopenic purpura, petechiae, *Raktapitta*

INTRODUCTION:

The bone marrow is the soft, spongy center of the long bones and is responsible for making blood cells, including platelets. The bone marrow responds to the low number of platelets and produces many more to send out to the body. A physician can look at the cells in the bone marrow and, in a child with ITP, would see many young platelets that have been produced. However, the blood test results of the circulating blood would show a very low number of platelets. The body is producing the cells normally, but the body is also destroying them. In most cases, other blood tests are normal except for the low number of platelets. ITP platelets usually survive only a few hours, in comparison to normal platelets which have a lifespan of 7 to 10 days.

Platelets are essential for the formation of a blood clot. Blood clots consist of a mass of fibers and blood cells. Platelets travel to a damaged area and stick together to form a plug, whenever a person is cut, for example. If there are not enough platelets, a clot cannot be formed, resulting in more bleeding.

There has been research involved in looking at certain medications causing ITP. Some medications may result in the altering of platelet function. At this time, no direct link has been made with any specific medication that may cause ITP.

Signs and symptoms

Normal platelet count is in the range of 150,000 to 450,000. In a child with ITP, the platelet count is generally less than 100,000. By the time significant bleeding occurs, the child may have a platelet count of less than 10,000. The lower the platelet count, the greater the risk of bleeding.

Because platelets help stop bleeding, the symptoms of ITP are related to increased bleeding. However, each child may experience symptoms differently.

Symptoms may include:

- Purpura - the purple color of the skin after blood has "leaked" under it. A bruise is blood under the skin. Children with ITP may have large bruises from no known trauma. Bruises can appear at the joints of elbows and knees just from movement.
- Petechia - tiny red dots under the skin that are a result of very small bleeds.
- Nosebleeds
- Bleeding in the mouth and/or in and around the gums
- Blood in the vomit, urine or stool
- Bleeding in the head - this is the most dangerous symptom of ITP. Any head trauma that occurs when there are not enough platelets to stop the bleeding can be life threatening.

The symptoms of ITP may resemble other blood disorders or medical problems. Always consult your child's physician for a diagnosis.

Idiopathic thrombocytopenic purpura is autoimmune disorder most occurring around 2-4 years (6.4/100000 children) [1] Causes are usually unknown or autoimmune disorder or follow viral illness. Major causes are decreased bone marrow production, increased splenic sequestrantion.

ITP can be corelated with *Triyak Raktapitta* on the basis of signs and symptoms.

AIM AND OBJECTIVES:

1. To find probable causes of ITP and its management by Ayurvedic approach.
2. To find therapeutic role of *Aatrushkadi Kashaya* in the management of ITP with reference to *Triyak Raktapitta.*

MATERIALS AND METHODS:

The data and materials are collected from textbook of pediatrics, *Ayurvedic Samhitas*, references from various journals, different persons practicing on this topic, many web searches related with ITP etc.

Clinical manifestations:

ITP is a serious bleeding disorder characterized by isolated thrombocytopenia (platelet count < 1,50,000 /cumm) sometimes follow viral illness.

Boys younger than 10 years had higher incidence of ITP. [2]

Platelet production occur in bone marrow.

ITP is common complication of CLD caused by under production of hormone thrombopoietin in the damaged liver or increased destruction of platelet through phagocytosis in enlarged spleen as well as loss of haemopoetic function in bone marrow[3]

Clinical features depends on degree of ITP

- up to 20 × 109/L = easy bruising, petechiae.
- Below 20 × 109/L = spontaneous bleeding skin bruises easily heavy internal bleeding.[4]

So, to treat thrombocytopenia we should work on the drug improving function of liver, spleen and bone marrow .

***Ayurvedic* approach:**

According to ayurveda *Samhitas* ITP can be corelated with *Triyak Raktapitta*.

According to Ayurveda in *Rakatapitta* all the *Doshas* are vitiated and that causes destruction of platelets in blood stream and manifested subcutaneously.

"तैर्हेतुभि: समुक्लिष्टं पित्तं रक्त प्रपद्यते

तद्योनित्वात प्रपन्नं च वधते तत् प्रदुषयत ।

तस्योष्मणा द्रवो धातुधातोधातो: प्रसिच्यते ।

स्विद्यतस्तेन संव्रुध्दि भुयस्तधिगच्छति'' ॥ १॥[5]"

Rakttapita is a bleeding disorder where *rakta* is vitiated by *pitta* flows out of opening in the body such as skin,nose,ears,eyes,mouth etc. In *Triyak Rakttapita* those openings are root of sweat gland and sebaceous gland present at subcutaneous layer of skin.

When all *Doshas* are vitiated and circulated in bloodstream, the manifestation are seen in subcutaneous layer of skin.

"पित्तंरक्तस्य विक्रुते संसर्गाद दुषणादपि ।

कुपितं रोमकुपेश्च समस्तेस्तत्प्रवर्तते ॥[6]"

According to *Ayurveda* liver and spleen are the main functional organs related mainly with production of *Rakta Dhatu.*

"पित्तं रक्तस्य विक्रते: संसर्गाद् दुषणादपि ।

गन्धवर्णानु व्रतेश्च रक्तेन व्यपदिश्यते ।

प्रभवत्यस्रज्य: स्थानात् प्लीहतो यक्रतश्च तत्॥३॥[7]"

When there is *Raktadhatu dushti* ,there is definitely disturbance in *Pitta Dosha as Rakta and pitta have ashraya ashrayi bhav.*

"तत्रास्थिती स्थितो वायु : ।

पित्तं तु स्वेदरक्तयो: ॥

यदेकस्य तदनस्य वर्धनशपनोषधम् ॥[8]"

So according to *Ayurveda* if we have to treat *Triyak Rakttapitta* we should work with drug acting on liver and spleen and

drugs possessing *Pittadosha shamak* properties.

TREATMENT:

There is no sure treatment of ITP according to modern except immunoglobulins and steroid.

According to pathophysiology of disease we should work with drug acting on liver, spleen and bone marrow function according to Ayurveda on *Rakta* dhatu and *Pitta Dosha*. To increase platelet count here is one reference we can use over it.

आट्ट्रुषकादि क्वाथ :

"आट्टरुषक मुव्दिका पथ्या क्वाथ सशर्कर : ।

मधुमिश्र श्वास कास रक्तपित्त निबर्ह ॥[9]"

1. आट्टरुषक

"वासको वातर्हुत स्वर्य: कफपित्तास्रनाशन: ।[10]"

Chemical compounds in Justica adhatoda includes Vasicine, Quinazolidine, essential oil, fats proteins, resins, sugars, gum, amino acids & vit.C.

Increase platelet associated withsignificant hyperplasia of megakaryocytes in bone marrow. Control capillary hemorrhage.

Vasaka exhibited marginal increase in WBC count to extent of 16%. Vasaka showed statistically significant protective effect against cyclophosphamide induced myclosuppression to an extent of 80%.

2. *MRUDIVIKA:*

मुव्दिका

"रक्तपित्तज्वर श्वासतृष्णा श्रयापहा ॥[11]"

Contain vit c, iron

Vit.c facillates absorption of iron, strengthens collagen of blood vessel, connective tissue prevent blood vessel damage strengthens immune system. Grape polyphenols have significant effects on the level of blood glucose, lipid profile, blood pressure, as well as beneficial activities in liver and heart with various mechanisms.

3. *PATHYA (HARITAKI)*

पथ्या

"स्वादुतिक्तकषायत्वात पितर्हुत सा ॥[12]"

The fruits contain tannins such as Chebulinic acid, corilagin. It also contain 18 amino acid, and little amount of phosphorous, succinc, quinic acid and Shikimik acids. In ripening fruit the number of tannin decreases and acidic level increases. The volatile oils are present in the kernel of seeds. Also, *Haritaki* contain vit c. It prevents capillary haemorrhage.

4. *SHARKARA:*

Provides (glucose) for all the process for increasing platelet production

5. *MADHU:*

मधु

"कषायपित्तकफहा गुरुरस्रविशोधन : ।

रोपण शीत: क्लेदमेदोविशोषण : ॥[13]"

Work by its *Kashaya Rasa*

CONCLUSION:

Comparing Idiopathic Thrombocytic Purpura with *Triyak Raktapitta* we successful achieve targeted platelet count by using drug act on *pitta Dosha*, *Rakta Dhatu* acting on liver spleen and bone marrow. In this way Idiopathic Thrombocytic Purpura can be controlled by using hepatoprotective drug, by decreasing capillary haemorrhage, enhancing immune system.

Hence proved that *Aatrushkadi kwath* successfully increase platelet count in ITP.

References :

1) www.indiapediatrics.net
2) Ncbi.nlm.nih.gov.in
3) World J gasatroenterol 2017 may 14page no. 3228-3299
4) Davidson book of paediatircs edition 2014, page no. 1050
5) Charak Samhita volume 2, adhyay 4, Bramhanand Tripathi, edition 2006, page no. 229
6) Vagbhat nidan 3, Dr.Ganesh Krishna Garde, page no. 172
7) Vagbhat nidan 3, Dr.Ganesh Krishna Garde, page no. 171
8) Vagbhat sutrasthan 11, Dr.Ganesh Krishna Garde, page no. 53
9) Charak chikitsa sthan 4, Ya. Go. Joshi, Vaidyamitra prakashan, page no. 146
10) Bhavaprakash, Chaukhambha Sanskrit prakashan, Edition 1993, Page no. 59
11) Charak sutra sthan 47, Ya. Go. Joshi, Vaidyamitra prakashan.
12) Bhavaprakash, Chaukhambha Sanskrit prakashan, Edition 1993, Page no. 411
13) Vagbhat sutrasthan 10, Dr.Ganesh Krishna Garde, page no. 49