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Role of Rohitakarista and Katu Taila in the management of Splenic disorders in children: A review study

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Abstract : Splenic disorders in children, particularly splenomegaly, pose significant diagnostic and therapeutic challenges due to their association with a wide range of hematologic and infectious conditions. Hereditary and congenital disorder of hemopoietic system which definitely involve the spleen like Thalassemia, sickle cell anemia, hereditary spherocytosis, leukemia, infections and disorder of bone marrow are certain disorders which carry a poor prognosis in later part are quite common in pediatrics. This article provides an integrative review of pediatric spleen disorders with a focus on splenomegaly and explores Ayurvedic strategies, especially the use of *Rohitakarista* and *Katu Taila* preparations. Clinical and experimental data support the efficacy of these traditional remedies in managing splenic enlargement and related hematologic dysfunctions. An integrated model of care combining conventional diagnostics with Ayurvedic therapeutics may offer improved outcomes in pediatric practice.

Keywords - Splenic disorders, Splenomegaly, *Ayurveda, Rohitakaristha, Katu Taila*

1. Introduction

The spleen plays a critical role in the immune and hematopoietic systems, especially in early childhood. Splenomegaly, or enlargement of the spleen, is a common finding in pediatric populations and can be due to a multitude of causes including hemolytic anemias, infections, and malignancies. While modern medicine provides diagnostic clarity and supportive treatment, recurrence and residual complications remain a challenge. Meanwhile incidence of splenic disorders is not uncommon in pediatric age group owing to increased prevalence of congenital hemoglobinopathy. Hereditary and congenital disorder of hemopoietic system which definitely involve the spleen like Thalassemia, sickle cell anemia, hereditary spherocytosis, leukemia, infections and disorder of bone marrow are certain disorders which carry a poor prognosis in later part are quite common in pediatrics.[1]

Ayurveda, the traditional Indian system of medicine, recognizes spleen disorders under *Plihodara. Pliha* &*Yakrit* as the root of *Raktavaha Srotas. Pliha* can be correlated with Spleen to certain extent and *Rakta vaha Srotas* with hematopoietic system, against a common belief of circulatory system.[2] Common symptoms which manifest are *Daurbalya* (weakness), *Aruchi* (anorexia), *Vipaka* (indigation), *Varcha Mutragraha* (retention of stool and urine), *Tama Pravesha* (entering into darkness), *Pipasa* (excessive thirst), *Anga Marda* (Malaise), *Kasa* (Cough), *Shwasa* (Dyspnoea), *Mrudu jwara* (mild fever), *Anaha* (immobility of wind in the abdomen), *Agni nasha* (loss of power of digestion), *Karshya* (emaciation), *Aasya vairasya* (distaste in the mouth), *Parva bheda* (pain in finger joints), *Kostha vata shoola* (distention of abdomen by wind and colic pain), *Shyava Aruna Udara* (reddishness or discoloration of the abdomen), appearance of network of veins having blue, green or yellow color.[3] Patient also develop gradual but continuous enlargement of left side of the abdomen and flanks along with feeling of heaviness in left side associated with mild fever. In due course of time child develop emaciation and marked anemia.[4]

2. Clinical Overview of Splenic disorders in Children

2.1 Prevalence and Etiology

The prevalence of splenic disorders in children varies based on geographic location, underlying causes (infections, hematologic conditions, etc.), and diagnostic criteria. A study of 124 pediatric patients at a tertiary care center found the prevalence of splenomegaly to be approximately 1.46%. The most common etiology was hemolytic anemia (80.64%), particularly thalassemia (50%) and sickle cell disease (30.64%). Other causes included infections, storage disorders, and congestive conditions.[5]

2.2 Clinical Features

Splenic disorders in children, particularly splenomegaly, often present with non-specific clinical features, making early diagnosis challenging. Clinical symptoms of splenic disorders in children can vary depending on the specific condition affecting the spleen, such as splenomegaly, hypersplenism, splenic infarction, or splenic rupture. Common symptoms include abdominal pain or discomfort, particularly in the left upper quadrant, which may radiate to the left shoulder due to diaphragmatic irritation (Kehr's sign). Children may also present with a palpable mass in the left upper abdomen, early satiety due to gastric compression, and signs of underlying hematologic or infectious conditions, such as fatigue, pallor, or fever. In conditions like hypersplenism, there may be cytopenia due to excessive sequestration and destruction of blood cells, resulting in anemia, leukopenia, and thrombocytopenia.[6]

In more acute presentations such as splenic rupture, which may follow trauma or occur spontaneously in conditions like infectious mononucleosis, children may show signs of hypovolemic shock, including hypotension, tachycardia, and altered mental status. Splenic infarction may present with sudden onset of sharp left upper quadrant pain and fever, particularly in children with sickle cell disease or hypercoagulable states. Additionally, chronic splenic enlargement may lead to growth retardation and delayed puberty due to chronic illness. Diagnostic evaluation often includes physical examination, blood tests, and imaging studies such as ultrasound or CT scans to assess splenic size and structure.[7]

The degree of splenic enlargement can be assessed clinically using Hackett's grading system, with Grade III being most frequently observed. These clinical signs, when correlated with laboratory findings, are crucial in diagnosing the underlying cause and determining appropriate management strategies. [8]

3. Ayurvedic Perspective on Splenic Disorders

3.1 Concept of *Plihodara*

In Ayurveda, splenomegaly is described as *Plihodara*, one of the eight types of *Udara Roga* (abdominal diseases). It is attributed to vitiation of *Rakta*, *Kapha*, and *Vata* doshas. According to *Acharya Kashyapa*, dietary habits, geographical influence, and improper *Ahara-Vihara* (diet and lifestyle) are significant contributors.[9]

3.2 Classification[10]

Classification of *Pliha Roga* is found only in *Laghutrayi*, and is classified into:

- ***Rudhira Pliha*** – Related to blood vitiation
- ***Pittaja Pliha*** – Due to excessive heat and bile
- ***Kaphaja Pliha*** – Associated with heaviness and stiffness
- ***Vataja Pliha*** – Marked by pain and flatulence

4. Ayurvedic formulations for the management of splenic disorders

4.1 *Rohitakarista*

Rohitakarista is a classical Ayurvedic formulation primarily used for managing disorders related to the liver and spleen. Also referred to as *Rohitakarista*m or *Rohitakarista*, this fermented liquid preparation contains approximately 5–10% of self-generated alcohol, which enhances its absorption and therapeutic potency. Traditionally, *Rohitakarista* is prescribed for conditions such as splenomegaly, abdominal colic, ascites, liver disorders, sprue, piles, jaundice, and even certain skin diseases. [11] Its anti-inflammatory and digestive properties make it beneficial in treating anorexia and other gastrointestinal disturbances.

The recommended dosage of *Rohitakarista* is typically 12 to 24 ml, taken once or twice daily after meals. [12] Despite its efficacy, caution is advised in its use, especially for individuals with a sensitive stomach or pre-existing liver conditions. In such cases, the

formulation may aggravate gastritis symptoms, including burning sensations in the stomach. Therefore, it should always be used under professional supervision, as excessive or unsupervised intake may lead to adverse gastrointestinal effects.

Rohitakarista, a fermented Ayurvedic formulation, has shown promising effects in experimental models. *Rohitakarista* demonstrated significant increases in neutrophil count and platelet production, and a marked reduction in lymphocyte percentages and red blood cell counts, indicating immunomodulatory and hematological activity on experimental rats' model in 41-days. The administration of *Rohitakarishta* has demonstrated several key hematological effects, indicating its therapeutic potential in conditions associated with splenomegaly. Notably, it leads to an increase in both the absolute count and percentage of neutrophils, reflecting enhanced immune response and possibly aiding in infection control. Platelet counts also show a noticeable rise, which may contribute to improved clotting function. Conversely, a reduction in hemoglobin levels and red blood cell counts suggests a possible redistribution or sequestration of these cells within the spleen, a common phenomenon in splenic enlargement. Additionally, *Rohitakarishta* influences other hematological parameters such as erythrocyte sedimentation rate (ESR), bleeding time (BT), and clotting time (CT), further supporting its role in modulating hematologic balance. These effects collectively underscore its potential utility in managing splenomegaly, particularly when linked to underlying hematological disorders. [13]

4.2 *Katu Taila*

Katu Taila, primarily based on mustard oil and pungent herbs, is advocated by *Acharya Kashyapa* for pediatric *Pliha Roga*. A separate chapter called *Katu Taila Kalpa Adhyaya* and as per opinion of *Kashyapa, Katu Taila* is the drug of choice for *Pliha Roga*. The *Panchabhoutika* constitution of the drug is very special and having Katu *Tikta,Rasa* and *Ushna Veerya* and *Katu Vipaka*. This drug possesses the qualities like *Tikshna, Ruksha, Snigdha*. *Sarshapa* has *Kapha Vatashamaka* properties and predominantly *Pitta Vardhka* activities along with added actions like *Deepana, Vidahi*, and *krimighna* property.[14] And reduces splenic congestion and inflammation.

Acharya Kashyapa has advised different preparations of Mustard oil or *Katu Taila* for the effective management of the *Pliha* Rogas in the childhood clinical practice. Meanwhile administration of the *Katu Taila* preparations should be done only after proper *Shodhana*. As per *Acharya Kashyapa, Snehana* should be done by *Kalyanka* or *Shatphala ghrita.* Further, consideration of *Desha, kala, Agni, Prakriti* will be also done to decide the dose of the medicine. Individuals are classified as strong, medium and weak on this basis and *Katu Taila* is given in the dose of 12, 06 and 04 Pala as maximum, medium and minimum doses. Preferably the drug should be taken after the procedure of *Shodhana* to yield the beneficiary effects. Child should be advised to keep awakening, stay away from air current, avoid excessive use of fire, free movement under the sky etc.[15]

After the intake of *Katu Taila*, symptoms such as pain (*Vyatha*) and drowsiness (*Tandra*) may manifest during the digestive phase. Once digestion is complete, effects such as purified belching (*Udgara Shuddhi*), reduction in excessive unctuousness (*Vaishadhya*), and a sense of lightness (*Laghava*) are experienced. Individuals who are emaciated (*Karshya*) or have undergone excessive purgation (*Ati Virechana*) should be administered *Mandadi Peya* (thin gruel). Those who are strong and have received only mild purgation (*Mridu Virechana*) should be given *Mridu Odana* (soft-cooked rice). *Katu Taila*, when mixed with the juice of sour substances (*Amla Dravya*) and combined with digestive and carminative agents (*Deepana Pachana Dravya*), should be administered daily for therapeutic benefit. [16]

5. Discussion

Ayurvedic treatments like *Rohitakarista* and *Katu Taila* provide a safe, cost-effective adjunct or alternative therapy, especially where conventional therapies offer limited long-term benefit and is highly relevant, especially in pediatric practice where splenomegaly is frequently encountered. Inherited hemoglobinopathies such as sickle cell trait, thalassemic trait, and hereditary spherocytosis are prevalent in certain geographical regions of South Asia, particularly among tribal populations, and often lead to splenic enlargement. Additionally, infectious diseases like malaria, typhoid, and kala-azar are endemic in several areas and serve as significant causes of spleen-related disorders. Inborn and acquired metabolic disorders, red blood cell enzyme deficiencies, toxicities, aplastic anemia, and various forms of leukemia are also commonly associated with splenomegaly. Regardless of the underlying etiology, the presence of an enlarged spleen presents a major therapeutic challenge, given the organ's complex and critical physiological roles.[17]

Ayurveda approaches the treatment of such conditions by addressing the root causes without disturbing the natural body functions. Acharya Kashyapa has mentioned that in regions with high incidence of spleen disorders, incorporating substances with *Katu Rasa*

(pungent taste) and *Vidahi* (hot, penetrating) properties in the regular diet could reduce disease manifestations. He emphasized the use of *Katu Taila Kalpa*, a therapeutic oil-based preparation containing *Katu Rasa*, *Teekshna Guna* (sharp potency), and *Vidahi Guna*, to clear obstructions (*Srotorodha*) and promote the flow in the channels (*Srotas*), particularly the *Rakta Vaha Srotas* (channels of blood). [18] Since the spleen and liver are considered the roots (*Moola*) of these channels, any dysfunction, especially due to diminished *Rakta Dhatwagni* (metabolic fire of blood tissue), results in the accumulation of abnormal or immature red blood cells, further stressing the spleen.[19]

The therapeutic role of *Rohitakarista* and *Katu Taila* is significant in regulating *Agni* (digestive/metabolic fire) at the tissue level, promoting normal tissue metabolism, and reducing pathological tissue growth, including abnormal spleen enlargement. Their properties like *Deepana* (appetizer), *Pachana* (digestive), *Amahara* (removal of toxins), and *Srotoshodhana* (channel cleansing) make it ideal for sustaining spleen health, even when genetic predispositions remain. Therefore, Ayurveda clearly explains and focus on the preventive and therapeutic use of *Rohitkarista* and *Katu Taila* which not only aids in controlling massive splenomegaly but also supports the regular functioning of the spleen. Populations in spleen disorder-prone regions of South Asia may greatly benefit by integrating *Katu Taila* based preparations into their dietary habits for long-term management and prevention.

6. Conclusion

Pediatric spleen disorders, particularly splenomegaly, require early diagnosis and targeted treatment. Prevalence of hereditary hemolytic disorders has been increasing day by day due to altered life style, faulty food habits and lack of awareness regarding genetic disorders. contemporary medical science contributed a lot in the management of same. But in search of a satisfactory solution for this burning problem judicious administration of *Rohitakarista* and *Katu Taila Kalpa* could offer promising avenues based on centuries-old wisdom and emerging scientific validation signifying land mark and great contribution of Ayurveda in the effective management of splenic disorders in childhood pediatric practice.

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