

Ayurvedic Management Of Histiocytic Sarcoma: A Case Report

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Abstract- Histiocytes play an important role in defense mechanism (innate and acquired immunity) by phagocytizing pathogens and / or cellular debris and by presenting antigens to stimulate lymphocytes and other immune cells to augment response to pathogens. Abnormal proliferation of histiocytes occur in cell differentiation and results in histiocytic sarcoma (HS). It is extremely rare and malignant form of tumor with usually aggressive clinical course. The signs and symptoms are systemic symptoms (fever, weight loss), hepatosplenomegaly, adenopathy's, intestinal obstruction, rash and pancytopenia. Here, a case report on 12- year- old female patient suffering from histiocytic sarcoma for 1 year 10 months. A relief in form of decrease in size of lump present at neck and relief in systemic symptoms were noted by treatment of one month of *Ayurvedic* medicine and local application of *Lepa*, which clearly indicate the efficacy of *Ayurveda* treatment and improve quality of life of patient.

Index Terms- Histiocytic sarcoma, *Ayurveda*, *Ayurvedic* medicine, *Lepa*.

I. INTRODUCTION

Histiocytic sarcoma is a rare neoplasm, and its aetiology and pathogenesis is unknown. It is malignant proliferation of neoplastic cells showing immunotypic and morphologic features similar to tissue histiocytes. HS in pediatric patients is rare, with only a handful of reported cases¹. It can involve any region of body mainly lymph nodes are involved. The overall incidence of HS was 0.17 per 1000000 individuals². Current epidemiological data estimate that < 1% of tumors presenting in lymph nodes or soft tissue can be defined as HS³. Histiocytic sarcoma commonly presents as a painless solitary mass at an extra nodal site (gastrointestinal tract, soft tissue, skin, spleen, or liver). Systemic symptoms like- fever, weight loss, fatigue, night sweat and weakness are commonly seen in HS⁴. Lymphadenopathy and skin manifestation can also be seen in this disease. Haemophagocytosis may occur in neoplastic cells. The definitive diagnosis of the disease is by an anatomopathological study of one of affected organ, bone marrow biopsy, an immunophenotypical study and genetic studies⁵. The tumor cells express one or more

tissue cell antigens, including CD163, which is the most important antigen for detecting macrophages⁶, CD68 and lysozyme. HS is an aggressive neoplasia managed using different types of treatment including- surgery, radiotherapy, chemotherapy and combinations with autologous hematopoietic stem cell transplantation may improves treatment efficacy. But it poses unwanted side effects and complications after treatment. The differential morphological diagnosis of histiocytic sarcoma includes- inflammatory pseudo tumor, follicular dendritic cell sarcoma, interdigitating dendritic cell sarcoma, malignant Langerhans's cell histiocytosis, large cell anaplastic lymphoma, melanoma and other sarcoma⁷. The prognosis of histiocytic sarcoma is poor. The aim of this case report is to show effectiveness of *Ayurveda* treatment in management of HS. An *Ayurvedic* approach in form of medication and *Lepa* was given to HS patient, due to its property like- *Lekhan (scrapping)*, *Balya (nourishment)*, *Bruhana (increases built)*, *Ayurvedhak (longevity)*, *Rasayana (rejuvenation)*, *Shothhar (anti-inflammatory)*, *Shoolhar (analgesic)*, *Agnideepan (increases digestive fire)*, *Jwarhar (anti-pyretic)*, *Kaphamedahar, Tridoshashamak* etc and marked relief was noticed in patient. In *Lepa- Bryophyllum pinnatum (Parna beej)* leaves which possess antimicrobial⁸, antifungal, anti-inflammatory⁹ and analgesic properties. The *Ayurvedic* modalities in form of oral medication and external application of *Lepa* benefited in HS patient.

II. CASE REPORT

A 12 -year- old female patient was asymptomatic before Oct, 2018. Gradually she suffered with pain and swelling in left side of neck region. She visited nearby hospital and one week treatment for tonsils were given. But the size increased progressively in two weeks. She visited Rishikesh AIIMS hospital where all relevant investigations were done and by biopsy she was confirmed diagnosed with histiocytic sarcoma. 6 cycles of Chemotherapy were done and size of lump in neck was mildly reduced. She had reduced Hb level (7mg/dl) for which 3-unit Blood Transfusion was done. In Jan 2021, she was having continuous high-grade fever (104°) for one month, difficulty in swallowing food, generalized weakness, and decreased appetite. Then, she visited hospital where PET CT was done in which

enhancing left cervical and supraclavicular lymph nodes, bilateral lung nodules, splenomegaly were noted. She was advised tab. Ibrutinib 420 mg once daily for 3 months. But after one month of medication no relief was found in above symptoms and size of lump was also increasing gradually. So, in June, 2021 she visited OPD number 13, *Kayachikitsa* department, Patanjali ayurveda hospital, Haridwar, where she was prescribed with *Ayurvedic* medicines and local administration of *Lepa* treatment for one month and continuing allopathic medication as prescribed. Marked improvement in reduction in size of lump in neck and marked relief in symptoms (fever, difficulty in swallowing food, generalized weakness and decreased appetite) was noticed. This show effectiveness of *Ayurvedic* treatment in management of HS.

Histopathology report (16/7/2019) revealed- non-Langerhans cell histiocytosis, increased proliferative index (Ki67-30%) histiocytic sarcoma.

The PET-CT report (26/4/2021) revealed-

*FDG avid (SUV max~20.7) heterogeneously enhancing left level ii-iv, right level iii and level vi cervical and left supra clavicular lymph nodes.

*(SUV max~11.9) multiple variable sized nodules in bilateral lung fields

*Splenomegaly ~11.0cm.

PET -CT report after treatment (12/10/2021)

*FDG avid (SUV max15.10) variable sized lymph nodes are seen in bilateral level II,III,IV,V and supraclavicular region.

*(SUV max~4.53) multiple variable sized nodules in bilateral lung fields

*No splenomegaly.

Parameters for assessment

1. Size of lump is assessed pre and post treatment. 80% reduction in size of lump in neck region was noticed.

Size of lump is measured by making a circle on lump in neck and mid-line diameter of circle is measured pre and post treatment. Pretreatment i.e.-20cm and post treatment i.e.-7cm

2. Symptoms were assessed pre and post treatment.

100% relief in symptoms- fever, decreased appetite, difficulty in swallowing food, generalized weakness, was noticed.



Before treatment (20cm)



After treatment (7cm)

Therapeutic Interventions

As histiocytic sarcoma is rare disease, no definitive treatment modalities are yet proved to cure the disease. We plan the treatment for concerned disease on basis of *Ayurvedic* principles for preventive, curative aspect and improving quality of life of patient. Here, a combination of drugs was selected by their properties and actions. Histiocytic sarcoma can be co-related to *Arbuda* in *Ayurveda*, where *Tridoshas* are involved and *Mamsa*, *Meda*, *Rakta Dhatus* are involved¹⁰. As patient was suffering from high grade fever so, *Tikta ras* dominant, *Jwarhar* (*anti-pyretic*) drugs were also prescribed. For increasing appetite *Deepan* (*appetizer*), *Pachan* (*digestive*) drugs were also added. *Lepa* of polyherbal formulations was advised due to its

anti-inflammatory action. Diet regimens were also planned on basis of giving *Rasayana* medication to patient. Patient is given oral medications and local administration of *Lepa* for one month as follow-
Table n.o.-1

III. DISCUSSION

Ayurveda offers wide range of medical formulations and therapeutic modalities that are found to be useful in management of *Arbuda Roga* along with less side-effects and maintenance of optimum health by enhancing immunity of body. Following *Ayurvedic* drugs had been selected in treating the histiocytic

Drug	Dosage	Relation to food	Advice
1. Sarvakalpa kwath- 200gm <i>Kayakalpa kwath- 100gm</i> <i>Ashmarihar kwath- 100gm</i> <i>Chirayta kwath- 100gm</i> <i>Ajwain seed powder- 25gm</i>	Take 50 ml of <i>kwatha</i> twice a day	Empty stomach	
2. Sanjeevani vati- 20gm <i>Shila sindoor- 3gm</i> <i>Abhrak bhasma- 5gm</i> <i>Giloy sat- 20gm</i> <i>Mukta pishti- 4gm</i> <i>Praval panchamrit ras- 5gm</i> <i>Swarna basantmalti ras-3gm</i> <i>Tamra bhasma- 3gm</i> <i>Heerak bhasma- 600mg</i> <ul style="list-style-type: none"> Crush <i>sanjeevani vati</i> 	Mix all drug & make 90 doses, take 1 dose twice a day.	Before meal	With honey
3. Mahasudarshanghan vati-40gm <i>Kanchnaar guggulu- 40 gm</i> <i>Vridhivaadhika vati- 40gm</i> <i>Arogyavardhini vati- 40 gm</i>	1 tab each thrice a day.	After meal	With luke warm water.
4. Wheat grass juice- 25ml <i>Giloy juice- 10ml</i> <i>Godhan arka- 10ml</i> <i>Neem leaves- 5gm</i> <i>Tulsi panchanga juice- 10ml</i> <i>Khadirarishtha- 25 ml</i>	Mix all & take twice a day.	Before meal	With luke warm water.
5. Local application of <i>lepa</i> in neck region- <i>Dasanga lepa-10gm</i> <i>Trikatu churna-5gm</i> Patharchatta leaves (<i>Bryophyllum pinnatum</i>)-2-3 leaves	Once a day		Leave for 6 hr

Diet- Light and easily digestible food was advised.

Pulses (green gram, lentil, pigeon pea), vegetables (bottle guard, ridge guard, pointed guard, round guard, green leafy vegetables), fruits (apple, chiku, pomegranate, mango, papaya), nuts (walnut, almond, peanut), brown rice, *Sali* and *Shastik* rice, cow milk, ghee, butter milk etc were advised.

sarcoma co-related to *Arbuda* in *Ayurveda* by breaking the *samprapti* (pathogenesis) of *Arbuda* by their properties and actions. *Nidanans* like *mithya ahar vihar* etc causes vitiation of *tridosha* and leads to *mamsa, meda, raktavah shroto dushti*. Aggravated *tridoshas* predominantly *vata, kapha* leads to *jatharagnimandya* and then *dhatvagnimanya*. Where there is *khaivagunya* produces swelling or an abnormal growth in any part of respective *dhatu*¹¹. The *samprapti* cycle can be broken by

ushna, laghu, ruksha, katu ras and deepan, lekhan, rakta prasadak and rasayan etc property *dravyas* or formulations.

Table n.o.-2

Heerak, bhasma, Tamra bhasma pacifies *tridoshas, Lekhan* (scrapping) property which helps in decreasing abnormal growth in neck region. *Tulsi* (*Ocimum sanctum*) has unique combination of actions that include: antimicrobial, antioxidant, chemo preventive, hepato-protective, anti-carcinogenic, analgesic, and immunomodulatory activities.¹² Various researches on wheat grass establish that its anti-cancer¹³ and anti-oxidant¹⁴ potential. *Giloy* (*Tinospora cordifolia*) bitter principle present shows adaptogenic, antispasmodic, anti-inflammatory, antipyretic, anti-neoplastic, antioxidant, and hepatoprotective properties¹⁵ *Kanchanara Guggulu* is an *Ayurvedic* formulation having properties of *Vata-Kapha Dosh*a pacification, *Granthihar, Lekhana* (scrapping) and *Shothahara* (anti-inflammatory).¹⁶ Others-*Mukta pishti, Abhrak bhasma, Shila sindoor, Sanjeevani vati, Sarvakalpa kwath* contains (*bhumiamaki, makoy, punarnava* as active ingredient), studies suggest that *Phyllanthus (Bhumiamalki)* may suppress the growth and replication of the virus also support the overall health of the liver¹⁷, *Kayakalpa kwath, Khadirarishta, Arogyavardhini vati, Dasanga lepa*, were selected for the metastatic involvement of disease in lung, spleen etc. Combination of *Ayurvedic* formulations had been given and an effort was made to treat histiocytic sarcoma.

Tridosha shamak	Sothahar (Anti-inflammatory) / Granthihar	Jwarhar (Anti-pyretic)	Agnimandya
<i>Heerak bhasma</i> <i>Tamra bhasma</i> <i>Wheat grass juice</i> <i>Neem leaves</i> <i>Tulsi panchan g juice</i>	<i>Kanchnaar guggulu</i> <i>Vridhdhivadika vati,</i> <i>Patharchatta</i> leaves (<i>Bryophyllum pinnatum</i>)-	<i>Mahasudarshangha n vati</i> <i>Swarna basantmalti ras</i> <i>Giloy Sat</i> <i>Chirayta kwath</i> <i>Giloy juice</i>	<i>Ajwain seed powder</i> <i>Trikatu churna</i> <i>Praval panchamrit ras</i>

IV. CONCLUSION

This is a single case report and marked improvement was observed in patient of Histiocytic sarcoma. Significant reduction in size of lump in neck was observed and marked relief in systemic symptoms like - fever, difficulty in swallowing food, generalized weakness, and decreased appetite by *Ayurvedic* treatment. Patient had metastatic involvement *Ayurvedic* formulations and diet regimens improved Quality of life of patient. Therefore, integrative approach should be encouraged in treating the patient with histiocytic sarcoma as early as diagnosed for preventing further progression of disease and pilot study can be planned.

Declaration of patient consent

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It is certified that I have taken appropriate patient consent. In the form, the patient and her guardian has given her consent for her images and other clinical information to be reported in the journal. The patient and her guardian understood that their name and initials will not be published and due to efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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