

A CASE REPORT OF ACUTE LYMPHOBLASTIC LEUKEMIA - AN AYURVEDIC APPROACH

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Abstract

Leukemia is the most common cancer accounting 25% for all childhood cancers in children. Cancer in children attracts more attention due to high cost of treatment and emotional, psychological trauma to the family. Leukemic cells rapidly accumulate in the bone marrow cavity replacing most of normal haemopoetic cells, resulting in signs and symptoms of disease. The rationale for using Ayurvedic medicines is to restore homeostasis and reverse the proliferation of neoplastic cells in the bone marrow. Patient of 4 years old was treated with an Ayurvedic formulation and majjabasti to get the bone marrow transplant effect. The patient got significant result with the help of Ayurvedic medicines.

Key words: Leukemia; Cancer; Majjabasti; Haemopoetic cells; Homeostasis.

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INTRODUCTION

In Acute lymphoblastic leukemia (ALL) bone marrow is replaced by malignant lymphoblasts resulting in anemia, thrombocytopenia and granulocytopenia.^[1] The incidence of ALL is about 1:2000 live births. The peak age of onset is 3-7 years. The disease is commonly occurs in males more as compare to females with increasing age. The exact cause of ALL remains unknown. There are two main subtypes, 1) Acute lymphoblastic leukemia (ALL); 2) Acute myeloid leukemia (AML), and may have 3) CML i.e chronic myeloid leukemia. Leukemia is a neoplastic proliferation of immature cells of the haemopoetic system.

No direct reference to leukemia or its sub classifications has been definitely identified in the Ayurvedic literature,^[2] though some scholars compared leukemia with Raktarbuda / Raktapitta since certain symptoms of leukemia resemble to those given for these diseases.^[3] It can be correlated with Pandu as vitiated pitta makes dhatu shaithilya (loosening of muscles) which ultimately results in the loss of ojus hence snehpana (oleation) is suggested by all Acharyas for its treatment.^{[4][5][6]}

The main clinical picture is Anemia, Fatigue, Bleeding tendency, Fever, Arthralgia and Infection.^[7] The disease is said to be in remission when bone marrow study reveals no cluster or collection of blast cells, and normal maturation of all cellular components (i.e. erythrocytic, granulocytic, and megakaryocytic series). There should be less than 5% blast cells in the bone marrow and none have a leukemic phenotype. The persistence of dysplasia is an indicator of residual disease. The absence of a previously detected cytogenetic abnormality production of atypical immature cells (i.e. complete cytogenetic remission) confirms the diagnosis of complete remission.

CASE HISTORY

This was the case of four year male boy, came to OPD with complaints of severe pallor (low hemoglobin level in blood), fatigue, delayed milestones and recurrent respiratory infections. On examination other features like lymphadenopathy, hepatosplenomegaly were revealed. The patient was asked for the investigations such as complete blood count, X-ray chest, ultrasound sonography (USG) of abdomen. The patient was treated with symptomatic Ayurvedic line of treatment for upper respiratory tract infection. Next day patient reported with haemoglobine 5.8 g%, Leucocytosis (44000), neutropenia (Polymorph 48) and thrombocytopenia (80,000) with raised ESR (Erythrocyte Sedimentation Rate) 58 mm in 1st hour, normal X-ray chest and USG shown hepatosplenomegaly. There was a doubt of acute lymphoblastic leukemia and needed to confirm. So the patient was referred to higher centre for bone marrow testing to exclude it. Report was advanced stage of L1. The patient was asked to start an Ayurvedic formulation taken from Sudhanidhi – An Ayurvedic magazine.^[8] Details of the Ayurvedic formulation are given in the Table 1.

All the ingredients were mixed together and triturated each 7 times with the juices of shyama tulsii (*Oscimum sanctum*), bilva leaves (*Aegle marmelos*) and sadaphuli (*Catharanthus roseus*) to enhance general immunity.^[9-16] The medicine was advised to take in a dose of 8 mg q.i.d. with 15 ml of above juices and each 5 ml of Rohitakarishtha, Kumari asava, Lohasava (total 30 ml anupana to potent the action of drug as well as to reduce the burden on liver) after 1 hour of meal.

The importance of majja basti^[17] was explained to the patient's parent who had given consent easily to start it soon.

Table 1: Composition of an Ayurvedic formulation used for Leukemia treatment

Sr. No.	Sanskrit Name	Proportion
1	Heeraka bhasma/ Incinerated Dimond	1part (1g)
2	Suvarna bhasma/ Incinerated Auram	2 parts (2g)
3	Abhraka sahastraputi bhasma/ Incinerated Mica	3 parts (3g)
4	Lauha bhasma/ Incinerated Iron	4 parts (4g)
5	Tamra bhasma/ Incinerated Copper	5 parts (5g)

They had brought fresh goats marrow (crushed yellowish red internal part of bone) approximately 15 g every day. It was boiled with 50 ml of milk to reduce to only 20 ml, it was administered by rectal route slowly & deep inside colon to avoid rectal pressure by adding 5 ml of panchatikta ghrita. Majja basti was given for 30 days daily to stimulate bone marrow function, erythropoiesis and immunity. After fortnight, the patient was advised to repeat complete blood count to see the efficacy of majjabasti and medication. It showed increase in hemoglobin by 1 g%, leucocyte count was reduced to 32,600 /cu.mm with no change in thrombocytopenia i.e. same platelet count as it was but not reduced further. Meanwhile patient had got some activeness, increased appetite and sound sleep with less fatigue, and hence the trust for Ayurveda was enhanced. After one month again good improvement was observed. Thereafter Majjabasti was given weekly twice up to 6 months. Patient had taken this medication for 5 months to prevent relapse. The most satisfactory thing was that patient was relieved from leukemia. Bone marrow testing was performed to confirm the complete remission with no atypical immature cell in blood and normal blood values. The same medicines with majjabasti was given to prove the results in 2 more cases of first and third stage patients of ALL of age 5 and 2 years respectively. In 1st stage, above medication was given for 5 months and for 3rd stage patient, the treatment was given with chemotherapy at Tata Memorial, Mumbai, it had worked so good without side effect, made us enforced to write a case report on it.

DISCUSSION

Leukemia is a very dreadful disease. Still there is no much satisfactory answer for it when diagnosed very late, hence multiple therapeutic approach is necessary to eradicate the disease with root. Here, the role of an Ayurvedic formulation was not only limited for the hemoglobin rise but also correct the values of blood cells. The total dose was 32 mg by Young's formula, which was divided into q.i.d. to potent the action of drug as well as to reduce the burden on liver in cancerous condition. The tikta rasatmaka aushadhies (bitter taste medicines) of Panchatikta ghrita and bone marrow through majjabasti as indicated by Acharyas in asthi-majjagata vyadhis, given by rectal route has great role to play in ALL but yet to prove the results of Majjabasti through Randomized Clinical Trials by taking large sample. It proved as a unique medicinal procedure as it had also given results in another case of ALL of 1st stage and 3rd stage also. It's a research part to find the exact scientific basis of treatment relief by above given combination in ALL. No major side effects were noticed in treatment duration in spite of chemotherapy, liver and kidney function tests were kept normal. It's a routine treatment but unique combination used in ALL. The case presented here indicates that Ayurvedic medicines are effective in treatment of ALL in early stage and in advanced stage with Allopathy as cancer spreads very fast and one cannot rely totally on Ayurveda only due to high rate of death owing to cancer. Also encouraging results had been observed during the other pilot study conducted by CCRAS (Central Council for Ayurvedic Research in

Ayurveda and Siddha) with other Ayurvedic drugs.^[18] Significant numbers of leukemia patients in India try various systems of complementary and alternative medicine (CAM),^[19] of which, Ayurveda is the most commonly used. An Ayurvedic approach like the one given here can be of some help to the cancer patients.^[20]

CONCLUSION

The present study indicates that the selected Ayurvedic medicines were effective in the treatment of ALL and did not produce any toxic side effects. However, proper clinical trials with large samples are needed to substantiate the observations so that beneficial alternative therapies can be integrated with conventional care.

REFERENCES

1. Ghai OP. Essential Pediatrics. 3rd edi. New Delhi: Interprint publication; 1993.p.370-371.
2. Tallman MS. Treatment of relapsed or refractory acute promyelocytic leukemia. Best Pract. Res. Clin. Haematol. 2007;20:57-65.
3. Prakash B. Treatment of relapsed undifferentiated acute myeloid leukemia (AML-M0) with Ayurvedic therapy. Int. J. Ayurveda Res., 2011;2(1):56-59.
4. Balendu Prakash, Purvish M. Parikh, Sanjoy K. Pal. Herbo-mineral Ayurvedic treatment in a high risk acute promyelocytic leukemia patient with second relapse: 12 years follow up. J. Ayurveda Integr. Med., 2010;1(3):215-218.
5. Caraka. Caraka Samhita (Uttarardha), Vol. 4. Bhagwan Dash, Sharma RK, editors. 1st ed. Varanasi: Chaukhambha Sanskrit Series; 2005. Chikitsasthana, 16/37-38.p.92-93.
6. Vagbhata. Ashtanga Hridaya, Vol. 2. Murthy KSR, editor. 1st ed. Varanasi: Chaukhambha Krishnadas Academy; 2006. Uttartantra, 1/45-48. p.454.
7. Peter H. Wiernik, John M. Goldman, Janice Dutcher, Robert A. Kyle. Neoplastic Diseases of the Blood. 5th ed. New York: Springer, 2012.p.331-333.
8. Gopal Sharan Garg. Sudhanidhi - Anubhuta Ayurveda Chikitsa. Vijaygadh, U.P: Sudhanidhi Karyalaya; 2010.p.196-197.

9. Soumen Das, Mangle Das C, Retina Paul. Suvarna bhasma in Cancer: A prospective clinical study. AYU 2012;33(3):365-367.
10. Mishra Amrita, Mishra Arun K, Ghosh Ashoke K, Jha Shivesh. Significance of Mica in Ayurvedic Products: An overview. IJRAP 2011;2(2):389-392.
11. Holdenrieder S, Stieber P, Peterfi A, Nagel D, Steinle A, Salih HR. Soluble MICA in malignant diseases; Int J Cancer. 2006;118(3):684-687.
12. Sarkar PK, Prajapati PK, Choudhary AK, S De, Ravishankar B. A comparative Pharmaceutico-Pharmaco- Clinical Study of Lauha Bhasma and Mandura Bhasma w.s. r. to cancer. AYU. 2007;28(1):11-16.
13. Swapnil Chaudhari, Chandrashekhar Jagtap. Review of Research works done on Tamra Bhasma (Incinerated Copper). AYU 2013;34(1):21-25.
14. Bhartiya, Uma S Raut, Yogita S Joseph, Lebana J. Protective effect of *Ocimum sanctum* L. after high-dose 131iodine exposure in mice: An *in vivo* study. IJEB 2006; 44(8):647-652.
15. Dinesh Kumar Sekar, Gaurav Kumar, Karthik L, Bhaskar Rao KV. A review on pharmacological and phytochemical properties of *Aegle marmelos* (L.) Corr. Serr. (Rutaceae). Asian J. Plant Sci. Res., 2011;1(2):8-17.
16. Svoboda Gordon H. The role of the alkaloids of *Catharanthus roseus* (L.) G. Don (*Vinca rosea*) and their derivatives in cancer chemotherapy. Retrieved from: <https://www.princeton.edu/~ota/disk3/1983/8315/831513.PDF> [Accessed on: 25/12/2013]
17. Caraka. Caraka Samhita. Srikantha Murthy KR, editor. 1st ed. Varanasi: Chaukhambha Orientalia; 2008. Siddhithana, 12.p.1038.
18. Effect of metal based Ayurvedic formulations in the patients of acute pro-myelocytic leukemia (APML): A pilot study. CCRAS, Department of AYUSH, Government of India, New Delhi. Retrieved from: <http://www.padaav.com/content/Monograph.pdf> [Accessed on: 01/09/2010]
19. Kumar P, Bhattacharyya GS, Dattatreya S, Malhotra H. Tackling the cancer Tsunami. Indian J. Cancer. 2009;46:1-4.
20. Gupta M, Shafiq N, Kumari S, Pandhi P. Pattern and perception of complementary and alternative medicine (CAM) among leukemia patients visiting haematology clinic of a north Indian tertiary care hospital. Pharmacoeconom Drug Saf. 2002;11:671-676.

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