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EFFECT OF SHIGRU-TWAK CHURNA IN THE MANAGEMENT OF PANDU WITH SPECIAL REFERENCE TO SICKLE-CELL ANAEMIA –A SINGLE CASE REPORT

Borkar S.[1], Ukey T.[2]

1. Associate professor, Rognidan Department, Jupiter Ayurved College Nagpur.
2. Assistant professor, Shalyatantra Department, Bhausaheb Mulak Ayurved Mahavidyalaya, Nandanvan Nagpur

ABSTRACT:

Sickle Cell Anaemia is a genetic disease-causing high morbidity and mortality. Quality of life hampers due to its chronic nature and painful crisis. Permanent cure is not possible till now, except successful bone marrow transplantation. Considering symptomatology and nature of disease, it can be correlated with Pandu Vyadhi, under the heading of Adibala Pavrutta Vyadhi. The chronicity indicates Asadhya nature of the disease. If some medication improves the quality of life and maintain the health of SCA patient, then such medications and efforts may become helpful to serve the society. A 22-year-old male patient diagnosed to besuffering with sickle Cell Anaemia with symptoms of severe pain in hip joints, knee joints body ache, weakness, anorexia, and weight loss came to the OPD, department of Rognidaan at our institute in Nagpur,Mother and father are sickle Cell trait (HbAS). They are the residents of NagpurMaharashtra lives in nagpur for 5 years. Patient has tried modern medicine but no relief in pain crisis. So, they came here and treated with Ayurvedic medications for 6 months, during which he had not experienced any pain crises. Weight is improved from 47 kg to 53 kg. Patient is now playing outdoor games without any sickle Cell crisis. So, this case study is intended to study the pathophysiology and management of sickle Cell Anaemia from Ayurvedic perspective and to explore the probable mode of action of ayurvedic medications that are used in Sickle-Cell Disease (SCD).

KEYWORDS: Adibala Pravrutta Vyadhi; Pandu; Sickle Cell Disease; Genetic blood disorder

CORRESPONDING AUTHOR:

DR. SACHIN BORKAR

Associate professor, Rognidan Department,

Jupiter Ayurved College Nagpur.

Email: Sachinb987@gmail.com

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INTRODUCTION:

Sickle-Cell Disease (SCD) or Sickle Cell Anaemiais agenetic disease among various tribal populations of India that affects the haemoglobin. Sickle Cell Anaemia is a homozygous state for the Hb-S gene (Hb-SS). It is transmitted as an autosomal recessive disease [1] It results in an abnormality in haemoglobin of red blood Cells. This leads to a rigid, sickle-like shape under certain circumstances. Signs and Symptoms in sickle Cell disease typically begin around 6 months of age. Several health problems may develop, such as attacks of pain (sickle-Cell crisis), Anaemia, bacterial infections, and stroke. [2] An attack can be triggered by temperature changes, stress, dehydration, and high altitude. The average life expectancy in the developed countries is 40 to 60 years. The highest frequency of disease is found in tropical regions, particularly sub- Saharan Africa, India, and the middle East.[3] Prevalence of Sickle Cell gene (%) in Maharashtra is 0 to 45.4 % [4] Management of SCD includes infection prevention with vaccination and antibiotics, high fluid intake, folic acid supplementation and painmedication.[5] Other measures are blood transfusion, and the medication with hydroxycarbamide (hydroxyurea).[6] A small proportion of people can be cured by a transplant of bone marrow Cells. As per the symptomatology and nature of disease, this clinical condition can be compared with Pandu Vyadhi (Anaemia) under the heading of Adibala Pavrutta Vyadhi (hereditary). Contributory factors like inappropriate Ritu (ovulation cycle), Kshetra (Uterus), Ambu (Amniotic fluid and Nutrients for foetus) and Bija (Sperm & Ovum), (negligence of urges during Dauhrida stage of pregnant women), presence of Garbhopaghatkar bhava (substances that can cause defect or death of foetus),[9] incompatible Garbha Vriddhikara bhava (normal requisites for growth and development of foetus)[10] and improper following of Garbhini Paricharya (Antenatal regimen) may possibly have undesirable effects on the foetal genomes and causing genetic diseases like sickle Cell Anaemia. Chronicity indicates the Asadhya (incurable) nature of disease. [11] If some medication improves the quality of life and maintain the health of SCD patient then such medications and efforts become helpful to serve the society. Here an effort was made to treat a 22-year-old male with known case of sickle Cell Anaemia by Ayurveda treatment management.

2.MATERIAL AND METHODS

2.1. Case History

A 22year old male, Hindu patient diagnosed to be suffering with sickle Cell Anaemia with symptoms of repetitive severe pain in hip joints, knee joints, body ache, weakness, anorexia, and weight loss approached the OPD. Resident of Nagpur, Maharashtra, India. Socioeconomic status was middle.

2.2. History of present illnesses

Patient was not aware about his disease before 8 years. He developed sudden pain crisis and investigated for the same and came to know about the disease (HB SS). Mother and father were also screened at that time and both were found to be sickle Cell trait (Hb AS). Initially he was treated with various analgesics as advised by physician, during which, Pain crisis occurs with interval of 1 to 2 months which last for 5 to 7 days and required hospital visits and sometime even admission. This medicine was stopped by patient after few years, as relief was not achieved totally.

Then he started Ayurvedic medicinefor almost 1 year given by Vaidya in village. The medicines given by them could not be named by parents, but interval between pain crises increased and got no relief. That medicines were also stopped by us; to know the efficacy of given treatment during study period.

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2.3. History of past illness
Nothing significant related to present condition.

2.4. Birth history
No any major medical. intervention required during pre-natal, natal, and post-natal period. Immunization was done as per thenational schedule.

2.5. Personal history
Aharaja: Vegetarian and appetite was poor.
Viharaja: Patient likes to play outdoor games but could not play due to fatigue. Sleep was disturbed.

2.6. Examination
Vitals were within normal range. No any abnormality found in cardio vascular system, respiratory system and per abdomen examinations. Prakruti was Vatadhika Kapha. Weight was 47 kg and height was 153 cm.

2.7. Ashtavidha Pariksha
Nadi (Pulse) was Vatadhika Tridoshaja. No complaint regarding Mala (Stool - once a day, soft in consistency) and Mutra (Urine- normal in frequency and no any associated complaints.) was observed. Jihva (Tongue) was Sama (coated) due to improper digestion. Shabda (Speech) was normal. Sparsha (Touch) was normal (No any tenderness, as currently patient does not have pain crisis). Drika (Eyes) are normal with mild pallor in conjunctiva but sclera is normal (no icterus). Akriti (appearance) was lean and thin.

2.8. Differential Diagnosis
Sickle beta Thalassemia, Sickle alpha Thalassemia, HbASTrait. Then he started Ayurvedic medicinefor almost 1 year given by Vaidya in village. The medicines given by them could not be named by parents, but interval between pain crises increased and got no relief. That medicines were also stopped by us; to know the efficacy of given treatment during study period.

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2.10. Laboratory Investigations
Complete blood count (CBC) of patient reveals haemoglobin of 8.2 g/dL, MCV 72.7 cu micron, platelet count 213,410/cmm, white blood Cell counts 6,200 /cmm, neutrophil count 60%, Haematocrit 30%, RDW (Red Cell distribution width) 15.5 %. Blood. film revealed numerous sickle Cells along with few tear drop elliptical Cells. Sickle solubility test is positive. Blood group is 'B' Rh positive.

2.11. Treatment Protocol-Total duration 2 months as given below

2.11.2. Internal Drugs

1. Sigru twak churna-For adult, 3 g twice a day after food for 60 days

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2.Tablet SC3 (500 mg) [13] 2 tablets, twice a day, after meal.
Anupana-Lukewarm water.

Follow-up

Follow-up was done every 15-day gap, i.e., 15th, 30th,45th and 60th day of the casel trial. During follow-up, an assessment of both subjective and objective parameters was done to assess the result.

2.9. Assessment for Result

The degree of severity as per the above gradation criteria and data collected from pathological investigations as mentioned in table of treatment was assessed. The assessment has been done in two stages as follows:

2.9.1. Clinical assessment

The average percentage improvement in the severity of different clinical sign and symptoms was calculated. The overall clinical assessment has been done considering the sign and symptoms as follows:

- Marked Improvement: 73.33% relief in signs and symptoms
- Moderate Improvement: 26.67% relief in signs and symptoms
- Mild Improvement: 0.00% relief in signs and symptoms
- Unsatisfactory: 0.00% relief in signs and symptoms.

DISCUSSION:

3. Results and Discussion

Patient did not show any symptoms till 12-14 years of age, which is somewhat differs from the nature of this disease.But here it shows the milder nature of disease. The patients suffering from Panduroga should be given Vamana (emetic) and Virechana (Purgation) therapies with Tikshna drugs for Shodhana(cleansing of the body) as per Acharya Charaka.

Table3 Effect of therapy

Sr no	Parameters	Before Treatment	After Treatment
1	Weight in kg	47	53
2	Pain Crisis	Present	Absent
3	Spleenomegaly	Absent	Absent
4	Anorexia	Present	Absent
5	Weakness	Could not spend time on exertion and cannot do exertive work	Couldt spend time on exertion and can do exertive work

3.1. Probable mode of action of Drug-

Shigru Twak(Bark) Churna-Predominant rasa of Sigru bark is katu, tikta, rasa having katu vipaka. Mainly, katu, tikta, rasa act on Kapha dosha. The drugs also poses ushna Veerya act on kapha and vata dosha. Laghu, rukshya, tiksha guna act as kapha shamaka and snigdha guna act as vata Shamaka. This drug is predominantly having Deepana Pachana properties. Sigru bark have such composition which strongly possesses tridoshahara properties according to the text and also act as anti-sickling effect. As per this study, the drug is effective in controlling the sign and symptoms of the sickle cell anemia. It is well tolerated, accepted, and accomplished by the patients. In the entire study period, no unpleasant incident was noticed due to drug therapy which would compel discontinuation. Along with anti-sickling properties, the drug possess antibacterial,[8] antipyretic,[9] antimicrobial, antioxidant, immunomodulatory, antifungal, anti-inflammatory, hepatoprotective, cardioprotective, and spasmolytic effects which in turn provide a productive, peaceful, and blissful life to the patients.

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CONCLUSION:

The basic cause of the disease is Bijadushti, with consequences like Agnimandya (both Jatharagni and Dhatwagni), Panduta, Nissarata and Kshaya of Dhatus. The consequent Tridosha Prakopa, Aama generation (premature RBC destruction), along with Dhatukshaya complicates overall outcome of the disease. The present case is seemed to be at manifestation type of Vaso-occlusive crisis. In this case no splenomegaly seen. This patient was treated with Ayurvedic medications and in the last 6 months he had not experienced any such pain crisis. Weight and anorexia are also improved. Patient is now performingoutdoor activities and games without any sickle Cell crisis. Long term therapy and evaluation of the patient periodically will give definite conclusion; a study with large sample size may also be planned for further evaluation of the role of Ayurvedic medications.

Key message: Sickle Cell Anaemia causes high morbidity and mortality among patient especially in the northern Maharashtra. Quality of life hampers due to its chronic nature and painful crisis. Ayurvedic drugs are helpful to improve their quality of life.

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