

A Case Study on the Supportive Effects of Guduchi (*Tinospora cordifolia*) During Chemo-Radiation Management

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ABSTRACT

Cancer is widely observed across the globe and its therapy uses different treatments which include Surgery, Chemotherapy, Radiation therapy and recently Immunotherapy.

It is either given alone or in combination, for treating cancer patients. The utility of each therapy depends upon the type of cancer, grade and stage. Chemotherapy employs diverse drugs to target cancer cells and Radiotherapy uses energy beams for targeting cancer cells. Patients receiving Chemotherapy and Radiation therapy commonly develop clinical manifestations including persistent fatigue, anorexia, nausea, vomiting, altered bowel habits, and significant weight loss. The substantial burden of Chemotherapy and Radiotherapy-induced toxicities necessitates the exploration of safe, economical and immunomodulatory supportive therapies. In Ayurveda, Guduchi (*Tinospora cordifolia*) is described as Classical Rasayan drug. It is also Tridoshahara, Jwaraghna and Balya possesses proven immunomodulatory, antioxidant and adaptogenic properties. This case study evaluates the supportive role of Guduchi in reducing chemotherapy and radiation therapy induced adverse effects in Cancer patient. Administration of Guduchi Kwatha (decoction) for 1½ year showed marked improvement in appetite, fatigue, hematological parameters, immune status and overall quality of life. This study suggests that Guduchi can serve as safe and effective adjuvant therapy alongside conventional oncological treatment.

Keywords: Chemotherapy, Radiation therapy, Guduchi, Cancer, Rasayana.

INTRODUCTION

Cancer remains a leading cause of morbidity and mortality worldwide. Conventional oncological therapies such as Chemotherapy and Radiation therapy exert cytotoxic effects not only on malignant cells but also on normal rapidly dividing tissues, resulting in systemic toxicity. Although the extent of affecting the population in developed and developing regions is different due to contributing factors, treatment modalities across the world remain the same. Several classes of Chemotherapeutic drugs based on their mechanism of action used in the treatment of cancer such as antibiotics, mitotic inhibitors, alkylating agents, topoisomerase inhibitors, anti-metabolites, corticosteroids and signaling inhibitors. Radiation therapy uses high-energy beams such as Gamma rays, X-rays, Protons or Electron beams to treat the tumor. Radiation-induced generation of Reactive Oxygen Species (ROS) and DNA damage is a vital contributor to the radiation-induced killing of cancer cells. Cancer Cells acquire several molecular alterations during the treatment, which might lead to the development of Chemoresistance and Radioresistance in Cancer cells. Despite several technological advancements, Chemoresistance and Radioresistance are still the major challenges, and thus relapse cases in Cancer patients occur frequently, which reduces quality of life. Common adverse effects includes anorexia, nausea, vomiting, fatigue, alopecia, leukopenia, anemia, thrombocytopenia, and immune suppression. In Ayurveda such manifestations are understood as Dhatu Kshaya, Agnimandhya, Oja Kshaya, and predominance of Pitta-Vata dosha. The concept of Rasayan Chikitsa emphasizes on enhancement of Bala, Ojas, Immunity and Tissue regeneration. Guduchi is a Classical Rasayana drug that refers to the heavenly elixir that has saved celestial beings from old age and kept them eternally young. Hence another name for Guduchi which is commonly known is Amruta. It means which protects the whole body. Guduchi plays a significant role in the promotion and

restoration of health and curing several diseases and infections. It is extensively used for the treatment and management of numerous health aberrations like fever, chronic fever, infections, low immunity, recurrent infections, recurrent common cold, chronic catarrh, cancer, asthma, gout, rheumatoid arthritis, chronic fatigue, digestive problems, liver anomalies, skin infections etc. Hence this study aims to assess the supportive effect of Guduchi during Chemotherapy and Radiotherapy.

Aims & Objectives

Aim:

To evaluate the supportive effect of Guduchi in managing adverse effects of Chemotherapy and Radiation therapy.

Objectives:

1. To assess the changes in clinical symptoms such as fatigue, anorexia, nausea and weakness.
2. To evaluate hematological parameters before and after therapy.
3. To assess improvement in quality of life.

MATERIALS AND METHODS

Study Design: Single case study

Age	47 years
Gender	Female
Diagnosis	CA Breast
Presenting Complaints	Severe fatigue, loss of appetite, nausea, generalized weakness.
Past History	No Diabetes or Hypertension
Treatment History	Received Chemotherapy and Radiation therapy.

Intervention

Drug - Guduchi Kwatha.

Dose - 250ml (4 times a day).

Anupana - Warm water.

Duration - 1&½ year.

Pathya - soaked black resins, dates, banana, beetroot juice, light, warm easily digestible diet, adequate hydration.

Assessment Criteria:

- Fatigue (VAS scale)
- Appetite grading
- Hemoglobin, TLC, Platelet Count

RESULTS

Parameters	Before	After
Hemoglobin	10.3 g/dl	11.2g/dl
TLC	1,000	5,500
Platelet count	1.1 lakh/mm ³	1.65 lakh/mm ³
Appetite	Poor	Slightly improved
Fatigue score	9/10	6/10

Nutritional value present in stem of Guduchi.

Calcium - 102.23 ppm

Phosphorus - 24.81 ppm

Iron - 26.058 ppm

Copper - 3.733 ppm

Zinc - 7.342 ppm

Manganese - 12.242 ppm

Crude fibre - 56.42%

Crude protein - 7.74%

Uses of Guduchi

- Memory enhancer
- Anti-cancer
- Anti-inflammatory
- Anti-aging
- Immunity enhancer
- Digestion enhancer
- Anti-oxidant
- Anti-diabetic
- Anti-spasmodic
- Anti-arthritic
- Liver protective
- Anti-allergic
- Anti-stress

Benefits of Guduchi

1. Used to manage fever occurring due to malaria, dengue, swine flu when given in these conditions.
2. It is known to increase platelet levels in the blood.
3. The anti-inflammatory property of Guduchi makes it valuable in decreasing respiratory problems such as recurrent cold and cough, asthma, and tonsil infections.

4. Helps to prevent reduction of white blood cells, which occurs due to Chemotherapy.

DISCUSSION

Chemotherapy and Radiotherapy causes Dhatu kshaya, depletion of Ojas. Guduchi possesses Tikta, Kashaya rasa; Madhur Vipaka; Ushna Virya and is Tridosha shamaka. It helps to enhance Agni and nourish Dhatu. Modern studies have demonstrated that Guduchi enhances macrophage activation, increases leukocyte count, and protects against oxidative stress. The observed rise and maintenance in Hemoglobin, TLC and platelet count can be attributed to its immunomodulatory supportive action. Thus, Guduchi acts a bridge between conventional oncology and Ayurveda by improving tolerance to Chemotherapy and Radiotherapy.

CONCLUSION

This case study demonstrates that Guduchi is an effective supportive Rasayana in patients undergoing Chemotherapy and Radiation therapy. It significantly improves Quality of Life like respiration, vital capacity, strength of body etc.

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