WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 21, 1853-1860. Case Study ISSN 2277–7105

AYURVEDIC SUPPORTIVE AND PREVENTIVE CARE IN HEAD AND NECK CANCER PATIENTS UNDERGOING CHEMORADIOTHERAPY: A CASE SERIES OF THREE CASES

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Article Received on 12 Oct. 2026,
Article Revised on 02 Nov. 2026,
Article Published on 03 Nov. 2026

https://doi.org/10.5281/zenodo.23913711

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How to cite this Article: Dr. Awez Ahmed* (2026). Ayurvedic Supportive and Preventive Care In Head And Neck Cancer Patients Undergoing Chemoradiotherapy: A Case Series Of Three Cases. World Journal of Pharmaceutical Research, 15(21), 1853–1860.
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ABSTRACT

Head and neck cancer patients undergoing chemoradiotherapy frequently develop severe toxicities such as mucositis, dermatitis, xerostomia, and general debility, which significantly affect the quality of life and treatment compliance. Ayurveda, with its principles of *Rasayana* (rejuvenation) and *Pitta-shamana*, may offer supportive benefits in such conditions. This case series presents three cases with head and neck cancer managed with Ayurvedic interventions during different stages of treatment. Two cases with established radiotherapy-induced toxicities showed significant clinical improvement following Ayurvedic treatment, while one patient who received preventive Ayurvedic care did not develop expected complications during radiotherapy. All patients demonstrated improvement in general condition, functional status, and overall quality of life. These findings suggest that Ayurvedic supportive and preventive care may help in reducing treatment-related toxicities and improving patient outcomes. Further large-scale studies are required to validate these observations. This case series highlights the potential of Ayurveda in oncology.

KEYWORDS: Ayurveda, Cancer, Chemoradiotherapy toxicity, Mucositis, Radiation dermatitis.

INTRODUCTION

Head and neck cancers are commonly treated with surgery, chemotherapy, and radiotherapy. However, these treatment modalities are associated with significant adverse effects such as

mucositis, dermatitis, dysphagia, xerostomia, and systemic weakness, which often lead to treatment interruption and reduced quality of life.

Patients with comorbid conditions such as diabetes mellitus may experience more severe complications and delayed recovery. Therefore, supportive care plays a crucial role in improving treatment tolerance and patient outcomes.

Ayurveda, through its concepts of *Rasayana (rejuvenation)*, *Ojas enhancement*, and *Pitta-shamana*, provides a holistic approach that may help in reducing inflammation, promoting tissue healing, and improving overall strength. This case series aims to evaluate the role of Ayurvedic supportive and preventive care in patients undergoing chemoradiotherapy for head and neck cancer.

Case Series

Case 1

A 63-year-old male diagnosed with head and neck cancer with uncontrolled diabetes mellitus (postprandial blood sugar >400 mg/dL) presented with severe radiotherapy-induced complications including burning sensation, moist desquamation, severe pain with oozing, oral soreness and dysphagia, anorexia, insomnia, and significant weight loss of approximately 30 kg over a short duration.

The patient was treated with a comprehensive Ayurvedic regimen including *Pravala garbha pottali, Rajat garbha pottali, Chandana-based formulations, Rasayana therapy* and local application of *Shatadhauta ghrita* along with other supportive measures.

Within 15 days of treatment, marked clinical improvement was observed in skin lesions, pain, appetite, and sleep. On continued follow-up, the patient regained approximately 30 kg weight, blood glucose levels normalized, and he resumed normal daily activities including walking, riding a bike, and performing routine activities independently.



Figure 1(A): Severe radiation- induced dermatitis (front view)



Figure 1(B): Severe radiation-induced dermatitis (side view)

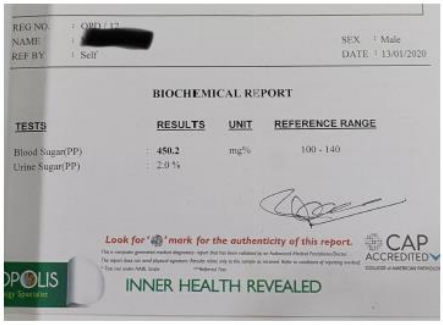


Figure 1(D): Baseline blood glucose report(2020) indicating hyperglycemia prior to treatment.

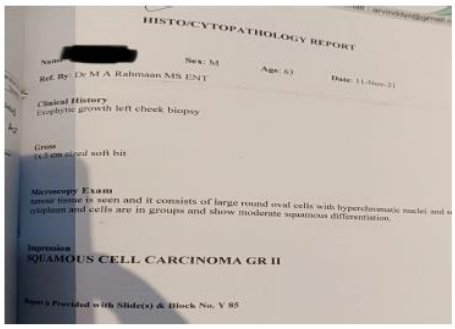


Figure 1(E): Histopathological examination report (2023) confirming diagnosis before initiation of Ayurvedic treatment.



Figure 2: Clinical improvement after 15 days of Ayurvedic treatment.



Figure 3: Follow-up demonstrating complete clinical recovery with normalization of blood glucose level (2025).

Case 2

A 56-year-old male undergoing radiotherapy for head and neck cancer presented with radiation-induced dermatitis, oral ulcers, burning sensation, weakness, anorexia, and insomnia.

The patient was managed with Ayurvedic formulations including *Yashtimadhu-based*

combinations, *Ushiradya churna*, *Pravala preparations*, and *Rasayana therapy*.

After one month of treatment, significant improvement was observed in skin condition, reduction in burning sensation and oral ulcers, along with improvement in appetite, strength, and sleep along with better overall quality of life. Clinical improvement was evident through photographic documentation.



Figure 4: Radiation dermatitis before treatment.



Figure 5: Significant improvement after 1 month of Ayurvedic treatment.

Case 3 (Preventive Case)

A 52-year-old female diagnosed with squamous cell carcinoma of the tongue (histopathologically confirmed) was managed under Ayurvedic guidance before, during, and after surgery and radiotherapy as an integrative approach.

Pre-operative Ayurvedic treatment was given to improve tissue condition and facilitate surgical outcomes. Post-operative care included *Rasayana therapy* for recovery. During radiotherapy, continuous Ayurvedic support was provided along with local protective applications such as *Shatadhauta ghrita* to minimize radiation-induced damage.

During the entire course of radiotherapy, the patient did not develop expected radiation-

induced complications such as mucositis, dermatitis, xerostomia, anorexia, or significant weight loss. Speech, taste perception and general condition remained normal. The patient successfully completed the prescribed 6-week course of External Beam Radiotherapy (60Gy/30 fractions) from July 2, 2025, to August 13, 2025, on a daycare basis without any treatment interruptions. The patient continues on *Rasayana therapy* and remains clinically stable on follow-up with no evidence of disease progression or recurrence.



Figure 6: Pre-treatment lesion on tongue.



Figure 7: Post radiotherapy status showing absence of treatment related toxicity (radiotherapy details attached).



Figure 8: Follow-up showing preserved oral function and clinical stability.

Table 1: Comparative Clinical Profile and Outcomes of three Cases.

Parameter	Case 1	Case 2	Case 3
Age/Sex	63/M	56/M	52/F
Condition	Severe toxicity	Moderate toxicity	Preventive case
Diabetes	Yes	No	No
Treatment Approach	Therapeutic	Therapeutic	Preventive
Skin Toxicity	Severe → Marked improvement	Moderate → Improved	Not developed
Mucositis	Severe → Improved	Present → Improved	Not developed
Appetite	Poor → Improved	Poor → Improved	Normal
Weight	Severe loss(~30 kg) → Regained	Loss → Improved	Stable
General Condition	Very poor → Excellent	Poor → Good	Maintained
Outcome	Dramatic recovery	Significant improvement	Prevention of toxicity

The above comparative summary highlights the significant therapeutic and preventive potential of Ayurvedic interventions in managing chemoradiotherapy-induced toxicities.

DISCUSSION

Radiotherapy-induced toxicity is primarily due to inflammation, oxidative stress, and tissue damage, leading to mucosal injury and systemic weakness.

In the present case series, Ayurvedic interventions appear to have have contributed through multiple mechanisms, including *Pitta-shamana* (anti-inflammatory effect), *Rasayana*

therapy (tissue regeneration and immunomodulation), and the use of *ghrita*-based formulations which provides mucosal protection and enhanced healing.

The preventive protocol used in the third case is particularly noteworthy, suggesting that early Ayurvedic intervention may help in preventing treatment-related toxicities and improving overall tolerance to radiotherapy.

These findings indicate a potential integrative role of ayurveda in oncology supportive care.

CONCLUSION

This case series suggests that Ayurvedic supportive and preventive care may play a significant role in reducing chemoradiotherapy-induced toxicities, improving quality of life, and enhancing functional recovery in patients with head and neck cancer undergoing chemoradiotherapy. Further controlled clinical studies are required to establish these findings.

Clinical Significance

"This case series highlights the potential role of Ayurveda not only in managing but also in preventing chemoradiotherapy-induced toxicities, thereby improving patient compliance and overall quality of life."

Ethical Considerations

This study is a retrospective case series. Institutional ethical approval was not required. Written informed consent was obtained from all patients. Patient identity has been anonymized and confidentiality has been maintained.

Patient Consent Statement

The authors certify that they have obtained appropriate patient consent. The patients have given consent for their images and clinical information to be reported. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity.

Conflict of Interest: None declared.

Funding: No external funding was received for this study.

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