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Effectiveness of ayurvedic treatment in alleviating side-effects of radiotherapy in patients suffering from oropharyngeal cancer and its relationship with improvement in immune status of the host

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Ayurveda, an ancient Indian system of medicine is practised even today for various illnesses especially those which are caused by reduced immune responses. Recently combinations of Ayurvedic drugs are recommended for cancer as an adjunct therapy. In the first part of this study we have clinically assessed the efficacy of Ayurvedic drugs in alleviating side effects of radiotherapy. In the second part, we have undertaken additional studies to assess the improvement in immune status of these patients. In both studies the assessment was done before, after completion of radiotherapy and one month thereafter. 70 Patients of oropharyngeal cancers with all stages and grades of the disease, who opted for radiotherapy, were enrolled for the first part of the study. Group 1 consisted of 35 patients who were treated with radiotherapy alone while Group 2 consisted of 35 patients who received combinations of Ayurvedic drugs. Ayurvedic treatment consisting of following 4 preparations was given daily for Group 2 patients during 5 weeks of radiotherapy and 4 weeks thereafter. 1) Mauktikyukta Kamadudha 2) Mauktikyukta Praval Panchamrut (Herbo-mineral mixtures) and 3) Ananta Vati (Tablet of Hemidesmus indicus) were given orally twice a day, while 4) Yashtimadhu Ghruta (Ghee medicated with liquorice) was given as local application twice daily. To assess the clinical efficacy of Ayurvedic drugs, we have used following criteria.

- Common toxicity criteria of radiotherapy - Stomatitis, Trismus, Dysphagia, Xerostomia, Nausea, Excessive salivation and Weight loss
- Karnofsky score- general well-being and activities of daily life
- ECOG numerical score (Eastern Cooperation Oncology Group) - general well-being and assessment of symptoms
- QLQ Scales (QLQ C 30) as per assessment criteria by EORTC (Symptom, Global and Functional scores)

Results of this study show significant clinical improvement in stomatitis, trismus, dysphagia, xerostomia & nausea with p values varying between 0.004<0.0001. Also, Karnofsky and ECOG scores show significant improvement with p=0.003 & 0.002 respectively. Quality of Life (QLQ) data shows significant difference between the 2 groups with p<0.0001 in Functional, Symptom and Global scores. Therefore it was necessary to study whether the drugs are exerting immunomodulatory effect on the host which could be one of the reasons for the clinical improvements observed. To address this question, we have undertaken a pilot study on 15 patients with oropharyngeal cancers to assess the immune status of patients undergoing similar treatment. Samples of peripheral blood and saliva (for assessment of local immune response) are being collected at the time points mentioned above. Following immunological criteria are being assessed -

- Tumour markers in PB and saliva- Ki67, CD105 by Elisa
- Immunophenotyping - Total T&B cells and T cells subsets in PB by FCM
- Functional assays for T and B cells- Proliferation using mitogens PHA/PWM assessed by 3H Thymidine incorporation
- Assessment of proinflammatory and antiinflammatory cytokines (IL-1, IL-6, IL-8, TNF- α , IL-10, IFN- γ) by FCM
- Circulating immune complexes in saliva and PB by PEG precipitation
- Levels of IgA in saliva and PB by Elisa

Results of studies on the immune parameters are expected to through some light on improvement in immune response in patients treated with Ayurvedic drugs, which will have implications in many other diseases as well.

Biography

Vineeta Deshmukh is Deputy Director of Integrated Cancer Treatment and Research Centre of Ayurved Hospital and Research Centre, Wagholi, Pune, India, which is recognized as "Centre of Excellence" by Department of AYUSH, Government of India. She is a Professor of Department of Basic Principles in Ayurved College, Wagholi. She is a guide for MD and PhD (Ayurved). She has completed her MD from Mumbai University and PhD from Pune University. She has participated many National and International conferences and presented research work on Cancer and AIDS. She has published 3 research papers in peer review International journals on efficacy of Ayurvedic treatment in cancer and HIV - AIDS.

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