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Clinical evaluation of the effects of radiotherapy on oral mucosa and gingiva

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Abstract

Introduction: The use of radiotherapy, alone or in conjunction with surgical resection, is common in treating head and neck tumours. However, ionising radiation induces unavoidable changes in the surrounding normal tissues, causing severe complications. Therefore, we decided to study different effects of radiotherapy on gingiva and oral mucosa. Methods and Materials: This prospective analytical study was performed on ٣٠ patients with head and neck cancers referred to the radiotherapy department of Ghaem Hospital from March to October ٢٠٠٦. Data were collected by means of interviews, clinical examinations and patients' medical file investigation. The impact of different dosages of radiation on gingiva and oral mucosa was investigated. Data analysis was performed using general linear model (GLM), Cochran and multivariate analysis of variance (MANOVA) tests via SPSS V. ١١,٥ software. Results: A direct relationship between increase in radiation dosage, irritation of oral mucosa, ulcer development and mucositis was observed. But there was no significant relationship between NUG (necrotising ulcerative gingivitis) and perléche and radiation dosage. Periodontal index (PI), gingival index (GI) and papillary bleeding index (PBI) were increased, but due to limited time of study (٦-٧ weeks), no change in gingival recession was observed. Plaque index (PLI) decreased during treatment process because of oral hygiene instructions. Conclusion: The oral and periodontal health status of head and neck cancer patients before and during radiotherapy has been described in this article. The authors believe that prevention or reduction of side-effects of radiation should be an integral part of treatment as they may have tremendous effect on the patient's quality of life. This study supports the need for dental assessment and treatment planning before radiation therapy. © ٢٠٠٨ Cambridge University Press.

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