

ABSTRACT

INTRODUCTION:

Radiotherapy is one of the main modes of treating oral cancer and in recent days radiation deliver methods and beam shaping has evolved with novel methods. Some of the methods of radiation delivery include Three dimensional conformal radiotherapy (3D CRT), Intensity modulated radiotherapy(IMRT), Image guided radiotherapy(IGRT), stereotactic body radiotherapy and proton beam therapy to name a few. But however these techniques are always associated with some pitfalls such as mucositis, skin reactions, dysphagia and xerostomia which occur in both acute and chronic manner. Hence there is a continuous necessity to optimize dose distribution which will reduce the toxicities and have a positive impact on the quality of life of the patient.

AIM:

To assess and compare the toxicity profiles occurring due to radiotherapy in head and neck cancer patients undergoing 3D CRT, IMRT and IGRT modes.

OBJECTIVE:

- To assess the toxicity associated with 3D CRT mode of radiotherapy
- To assess the toxicity associated with IMRT mode of radiotherapy
- To assess the toxicity associated with IGRT mode of radiotherapy

- To compare the toxicity profiles associated with 3D CRT, IMRT and IGRT modes of radiotherapy.

MATERIALS AND METHODS:

The present study was an attempt to assess and compare the toxicity profiles due to radiotherapy in head and neck cancer patients undergoing 3D CRT, IMRT and IGRT modes of radiotherapy. A total of 60 patients with a Karnofsky Performance Scale (KPS) more than 70 were included in the study with 20 in the 3D CRT group, 20 in the IMRT group and 20 in the IGRT group. The results were analysed using SPSS software. ANOVA, Turkey HSD and Post Hoc method were used to statistically analyze the obtained data.

RESULTS:

The results showed that 3D CRT group demonstrated significantly more acute and chronic toxicities in relation to mucositis, skin reactions, xerostomia and dysphagia. However comparison between IMRT and IGRT did not give significant results in any of the groups.

CONCLUSION:

In our study IMRT and IGRT was associated with a significantly lower incidence of toxicity in relation to acute mucositis, skin reactions, chronic xerostomia and dysphagia in the patients and hence is more tissue sparing and improves the quality of life of the patient.

Key words: Mucositis, skin reactions, xerostomia, dysphagia, toxicity