Using Patient Reported Outcome Measure (PROM) to Manage Pain During Radiation Therapy

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Introduction

Pain severity is an important symptom to assess for in head and neck cancer patients undergoing radiotherapy (RT). Although radiation itself is painless, it induces an acute postradiation reaction that can cause many side effects, with the most debilitating being oral mucositis [2]. Studies have shown a correlation between severity of pain and severity of oral mucositis [3]. To help manage the pain, the World Health Organization (WHO) has recommended an escalation chain of analgesics guideline, starting with NSAIDS, then weak opioids, followed by potent opioids [4]. Due to the subjective nature of pain, which can be difficult for health systems to measure, patient reported outcome measures (PROMs) is a tool that can be used to better gauge and improve patients' health experience [5]. Significant pain signals that modifications in pain management are needed to better monitor the pain. In this study, we used an institution-based PROM, The MD Anderson Symptom Inventory (MDASI), for pain assessment. The objective of our project is to determine the efficacy of pain management during RT using PROM.

Methods

Retrospective data was obtained for 500 oral cavity and oropharyngeal (OC/OPC) cancer patients, treated with RT at the Radiation Oncology department, MD Anderson Cancer Center in Houston, TX, USA. Pain scores were collected during the weekly see visits using MDASI, which is a multi-symptom PROM used to assess the severity of symptoms and how much of that disrupts daily life [6], using a scale from 0 to 10 (0 = no pain, 10=the worst pain). Clinical data was collected using EPIC and Brocade software. Pain scores were compared to mucositis intensity (0 = none, 1 = mild, 2 = moderate, 3 = severe), assessed weekly during radiation therapy visits. Patients were divided into cohorts based on age (19-33 = 1, 34-48 = 2, 49-64 = 3, 65-78 = 4, 79-98 = 5). T-test and ANOVA test were used for statistical analysis.

Results

MDASI pain scores reported during weekly see visits revealed a significant increase through the course of RT (p < 0.0001), with the highest severity of pain experienced at the end of RT. Pain scores were tested across age groups. There were no significant differences in pain scores between age cohorts, with a similar trend in each week across the cohorts.

Conclusions

The aim of this study is to determine the efficacy of pain management during radiation therapy using PROM. Our data suggests that pain levels consistently increased during RT. This suggests the pain management currently implemented may not adequately control pain during the weeks of RT and may be in need for improvement. This is important to address due to the negative effect pain can have on the quality of life [1].

References