The Effect of Chemotherapy and Radiation Therapy on Pain Levels In Head and Neck Cancer Patients

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Background

- Head and Neck Cancer
  - 8th most popular cancer in the United States
  - Types focused on :
    - Oral Cancer
    - Oropharyngeal cancer
  - Head and Neck Cancer usually managed with a multimodality treatment method[2]
- Acute Pain induced by Radiation Treatment[1]
  - Acute Mucositis
  - Oral Candidiasis
  - Xerostomia
- Patients who have undergone chemotherapy and radiotherapy will experience higher pain profiles through their radiation treatments.

Methods

- Used to collect data on each patients pain severity, treatment data (Dose, Fx/Dose, and duration), clinical features (type of cancer: oropharyngeal or oral, ECOG performance, and Karfonsky Performance Status) , pain assessment (intensity, score, location and orientation), and if the patient was having concurrent chemotherapy
- Took the collected data and used it to run an individual sample T-test to determine if concurrent chemotherapy is associated with higher pain scores compared to RT alone.

Methods (continued)

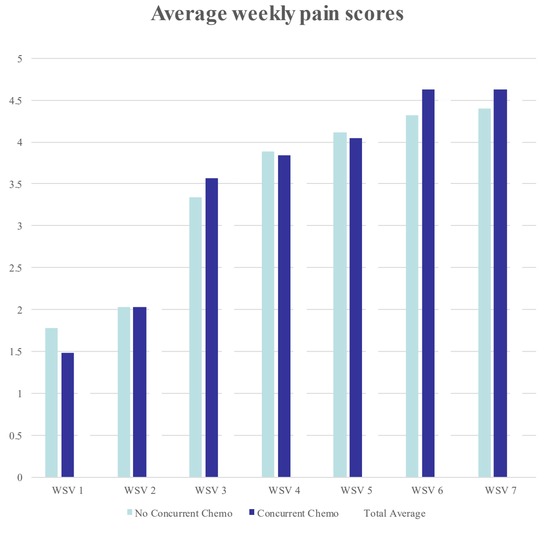
Variables/ Measures

- Independent Variable
  - Concurrent Chemotherapy (recorded in the survey as a bivariant)
- Pain Score Scale
  - Recorded on a scale from 0 -10 (0 = no pain , 10 = extreme pain)

Results

- The independent sample t-test determined that the p-value for these two factors <.001 which is way below .05. (df =138)

Figure 1. Average weekly pain scores



Results (continued)

Table 1. Demographics of Patient Cohorts

Demographics	Number	Percentage
Gender		
Female	62	27.07%
Male	167	72.93%
Age		
30-50	24	10.48%
51-70	154	67.25%
71-90	51	22.27%
Race		
Caucasian	197	86.03%
Black	5	2.18%
Asian	8	3.49%
American Indian	1	.44%
Other	16	6.99%
N/A	2	.87%
Cancer Type		
Oral Cancer	100	43.67%
Oropharyngeal Cancer	129	56.33%
Concurrent Chemotherapy		
Yes	144	62.88%
No	85	37.12%

Conclusion

- Overall , the results show that having concurrent chemotherapy or targeted therapy during radiotherapy does not cause a patient to have a higher level of pain throughout their radiotherapy.
- Concurrent Chemotherapy or targeted therapy with radiotherapy do not have a statically significant affect on a patients pain.
- A limitation of the study was some of the patients did not always take a pain survey during their weekly see visits, which resulted in having no data of their pain at certain points.

Future Directions:

- Data for this study was collected from mostly one source, so as more data is collected and tested it my cause the results to change

References

[1] Rosenthal, David I., et al. “Measuring Head and Neck CANCER Symptom Burden: The Development and Validation of the M. D. Anderson Symptom Inventory, Head and Neck Module.” Wiley Online Library, John Wiley & Sons, Ltd, 14 Mar. 2007, onlinelibrary.wiley.com/doi/full/10.1002/hed.20602. .

[2] Epstein, J. B., & Miaskowski, C. (2019, August 19). Oral pain in the cancer patient. OUP Academic. https://academic.oup.com/jncimono/article/2019/53/lgz003/5551353?login=true.

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