Results of an Educational Campaign to Improve the Knowledge of Referring Providers Related to the Benefits of Hyperbaric Oxygen Therapy on Late Radiation Tissue Injuries

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INTRODUCTION

Radiation therapy is a modality used to treat many forms of cancer, and about 50% of individuals receiving radiotherapy will be long-term survivors. A 2023 review of eighteen studies using Cochrane methodology with publications ranging from 1985-2022 suggested hyperbaric oxygen (HBO_2) therapy may be associated with improved outcomes in patients with late radiation tissue injuries (LRTIs) affecting areas of the head, neck, bladder, and rectum.[1] Despite supporting medical evidence, patients experiencing symptoms of LRTI appear to be under-treated with HBO_2 therapy secondary to a lack of understanding of HBO_2 medicine by potential referring providers. This analysis aims to determine whether a nationwide educational campaign targeting LRTIs could favorably impact patients' access to HBO_2 therapy.

METHODS

A twelve-month LRTI education campaign was initiated on October 1, 2023, and led by over 25 directors targeting local and regional oncology and primary care practitioners across North America. Data collected from 235 RestorixHealth sites utilizing the WoundDocs electronic medical record (EMR) From October 2023 through September 2024, the total number of HBO_2 therapy treatment sessions organized by ICD 10 codes specifically correlating with patients treated for *LRTIs was collected. The comparator group was collected prior to the education campaign from October 2022 through September 2023. Statistical significance was calculated using Chi-Square.

* LRTIs include the following diagnoses: Soft Tissue Radionecrosis, Late Effects of Radiation, Radiation Cystitis, Osteoradionecrosis, Radiation Colitis.

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RESULTS

Study Periods	# Of HBO_2 Therapy LRTI Treatments Only	
Pre–LRTI Campaign (October 2022 – September 2023)	**21,982**	
Active LRTI Campaign (October 2023 – September 2024)	**23,288**	
	Total	45,270

The chi-square statistic is 197.2904. The *p*-value is < 0.00001. Significant at $p < .05$.

The chi-square statistic with Yates correction is 197.1376. The *p*-value is < 0.00001. Significant at $p < .05$.

RESULTS

During the twelve months of the LRTI educational campaign, monitored at 235 sites (95% CI:0.823,0.905), there was a **statistically significant 12.2% increase** in the number of HBO_2 therapy treatments targeting LRTIs when compared to the baseline twelve months before the start of the LRTI campaign through the educational intervention period.

- The percent increase between the baseline and intervention periods was **12.2%.**
- Intervention period - For all indications treated with adjunct HBO_2 therapy 26.7% were for LRTIs.
- Baseline period - For all indications treated with adjunct HBO_2 therapy 23.8% were for LRTIs.

CONCLUSION

This real-world retrospective analysis was statistically significant and suggests that patients suffering from LRTIs may never be offered HBO_2 therapy as a treatment option to alleviate their pain and suffering secondary due to a lack of familiarity of referring provider(s) with the benefits of Hyperbaric Medicine. Further studies are warranted to corroborate these findings.

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References

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