

Theme: Clinical

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Abstract Title: Proton Re-Irradiation in Recurrent Head and Neck Cancer: A Comparative Analysis of Outcomes and Toxicities in Squamous vs Non-Squamous Tumors

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Background / Aims:

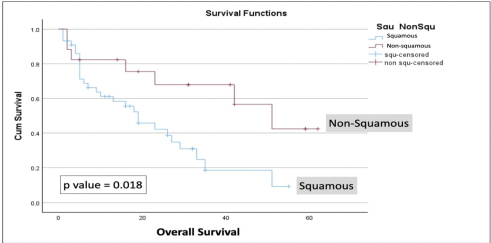
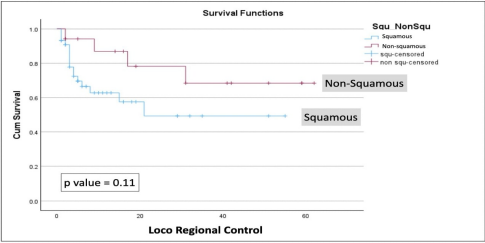
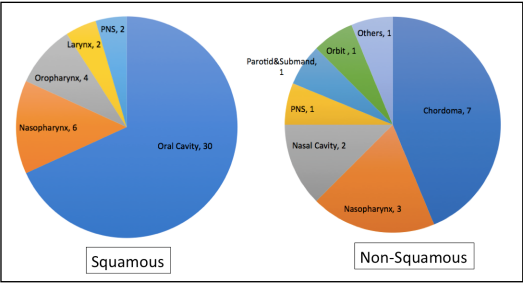
- Re-irradiation for recurrent head-neck-cancers (HNCs) is challenging due to the elevated risk of toxicity in previously irradiated tissues.
- Proton therapy (PT) offers precise dose delivery, reducing dose exposure to normal tissues, potentially improving outcomes.
- This study reports clinical outcomes and late toxicities of PT re-irradiation in recurrent squamous and non-squamous HNCs.

Methods:

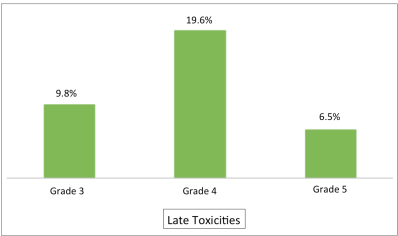
- 61 consecutive patients, May 2019 to May 2025,
- Site: Nasopharynx,Oropharynx,OralCavity,PNS,Larynx,Hypopharynx and Skull base
- Evaluated acute and late toxicities, early clinical outcomes-loco regional control rate (LRC) and overall survival (OS).

Result:

- Median follow up 33 months
- Squamous: n=44, Non-squamous: n=17
- Median interval between the initial radiation and re-irradiation: 51 months (6-204 months)
- 60 pts (98.3%) had prior photon radiation
- Median prior radiation dose 60Gy (16-70Gy)



	Squamous	Non-Squamous	p value
2 year LRC	49.3%	78.2%	0.11
2 year OS	42.3%	67.9%	0.018



Conclusion

- Significant improvement in OS observed in non-squamous compared to squamous histology.
- Tumor biology and histology still dictate outcomes, even with advanced radiation like proton therapy.