Optimizing Quantitative Fluorescence Imaging for Head and Neck Cancer: A Pilot Study

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PROJECT SUMMARY/ABSTRACT

Head and neck cancer (HNC) treatment faces significant challenges due to high recurrence rates (55%) and the limitations of current surgical and adjuvant therapies. This pilot study aims to gather preliminary data for **Aim 1** of our recently submitted **STTR grant**, focusing on optimizing and validating quantitative fluorescence imaging (qFI) for intraoperative detection of residual tumor cells. By implementing a highly sensitive imaging system, this research seeks to significantly reduce positive margin rates, thereby improving surgical outcomes and feasibility for clinical translation. This study will address critical reviewer critiques by demonstrating the feasibility in a murine model, supporting the future integration of this innovative approach into clinical workflows.