**Elevating Patient Safety in Perianesthesia Care: A Quality Improvement Initiative on Aminolevulinic Acid HCl (Gleolan) Use**

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**Introduction:** Glioblastomas, the most common type of malignant primary brain tumor, contribute significantly to mortality among patients with primary brain tumors. Tumor resection is critical for improving disease progression and survival in glioma treatments. Aminolevulinic Acid HCl (Gleolan), an optical imaging agent, facilitates intraoperative visualization of tumor cells through fluorescence, thus preserving healthy tissue and maximizing tumor removal.

**Identification of the Problem:** Several safety events were linked to Gleolan administration and communication errors. A pre-intervention survey among PACU staff highlighted gaps in knowledge regarding Gleolan's use, preoperative administration/contraindications, and postoperative precautions.

**QI Question/Purpose of the Study:** The project aimed to improve nursing staff's understanding of the indications and contraindications for Gleolan use and related precautions in perioperative service, specifically within neurosurgery nursing units during the preoperative and postoperative periods. The objective was to determine whether enhancing staff knowledge, modifying the EMR, and strengthening structured hand-off communication could reduce safety events related to Gleolan administration.

**Methods:** This quality improvement focused on enhancing nurse knowledge and precautions through interdisciplinary collaboration and cross-campus quality committee using structured hand-off and initiating photosensitivity alerts. Methods included delivering education in huddles and group in-service sessions. The nursing team worked on implementing changes in EMR for safety precautions and utilizing photosensitivity wristbands along with a cross campus quality committee.

**Outcomes/Results:** Post-intervention survey data showed an average improvement of 35% in staff knowledge. Additionally, a 50% reduction in Gleolan-related safety events was observed within a year, indicating significant progress in staff confidence and safety in handling patients administered with Gleolan.

**Discussion:** This project necessitates collaborative work amongst PACU and multidisciplinary team (e.g., neurosurgery, information technology) and identifying facilitators and barriers to service delivery. Educational in-services can significantly improve the knowledge and skills of nurses, improve the hand-off process, resulting in safer patient care and fewer Gleolan-related safety events.

**Conclusion:** Collaborative development of educational initiatives, standardized structured hand off have proven effective in improving interventions for patients receiving Gleolan, contributing to safer and more effective surgical procedures.

**Implications for perianesthesia nurses and future research:** To continue improving service delivery and patient care, involving relevant professional staff in educational initiatives is crucial. This project underscores the importance of comprehensive education and interprofessional collaboration in advancing patient safety and enhancing care quality.