

Management of Intractable Intraoperative Emesis during Awake Craniotomy

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BACKGROUND

- Awake Craniotomy (AC) is an important technique used in tumor excision located by eloquent cortex to minimize damage
- Two common anesthetic approaches are Monitored Anesthesia Care (MAC) or Asleep-Awake-Asleep technique (AAA)
- Despite the approach, the goal is an awake, comfortable, cooperative patient during critical phases of operation
- For MAC this can be achieved with Propofol, Remifentanyl and Dexmedetomidine with scalp blocks for analgesia
- For AAA patient receives general anesthesia and will be awakened for cortical mapping + neurophysiological monitoring, then re-anesthetized for conclusion of case
- Nausea and Vomiting (N+V) is of concern during AC due to the potential for raised cerebral pressure, aspiration or asphyxia.
- Factors contributing to intraoperative N+V can include:

Anesthetic agents

Anxiety/Fear

Inadequate Analgesia – non-use of scalp block

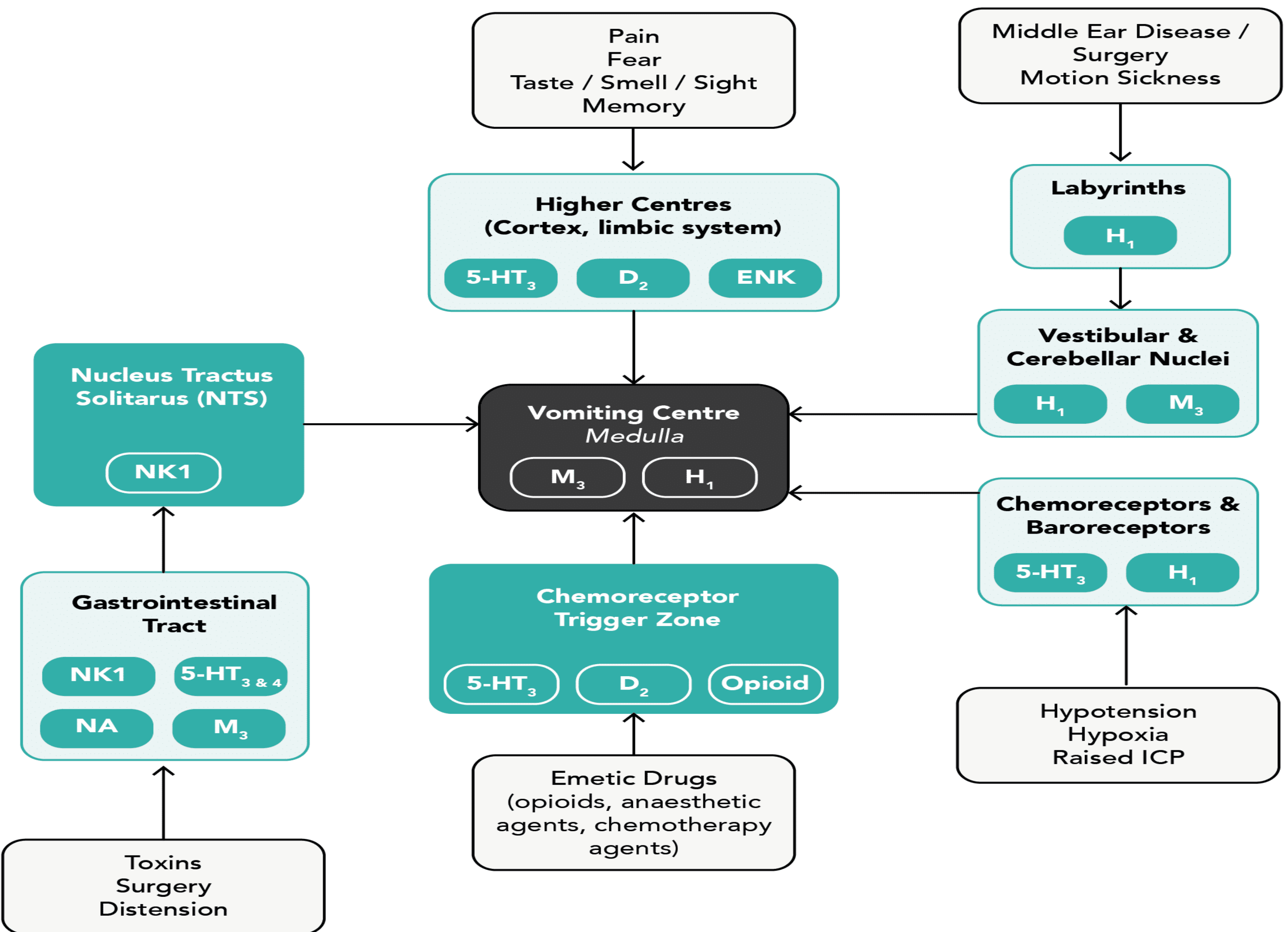
Surgical location: Dural attachment or proximity to vomiting centers

Duration of surgery

Patient-related factors

CASE DESCRIPTION

- Young Caucasian female undergoing left fronto-parietal mass resection
- Pain control using scalp blocks and local anesthetic by surgical team
- Standard ASA monitoring + Arterial Line
- Sedation with Remifentanyl, Dexmedetomidine and Propofol
- Near end of resection portion of case, patient became rapidly nauseated, followed closely by continued emesis.
- Despite administration of numerous antiemetic agents and sedation adjustments, team was unable to resolve her nausea
- Prompt discussion with surgical team to proceed with Rapid Sequence Induction (RSI) using Video Laryngoscopy given concerns of patient comfort and safety
- Undertaken whilst under surgical drapes and in pinion holder
- Airway inspected with bronchoscope and was without evidence of aspiration.
- Patient successfully extubated after surgery without neurocognitive defects or adverse events.



DISCUSSION

- Intraoperative Nausea and Vomiting (IONV) is relatively uncommon.
- Predicted occurrence of 4-9%
- Often managed successfully with Dexamethasone, Ondansetron and Propofol
- Many other antiemetic agents can be sedating, and response is highly variable in individual patients
- Fixed and flexed head positioning can facilitate aspiration, if combined with intractable emesis.
- This can lead to further anxiety and agitation leading to patient discomfort and can impede surgical progress
- When conventional approaches fail, the role of Anesthesiologist is key in patient safety and advocacy.
- Early communication with the surgical team is crucial, to avoid adverse events.

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Image: [Nausea & Vomiting Physiology - theguidewire](#)