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Case Series on Comparison Between Dexmedetomidine and Propofol as Preanaesthetic Medication in Awake Fibreoptic Intubation

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Abstract: ***The comparison of dexmedetomidine and propofol as pre-anesthetic agents for awake fibreoptic intubation, as detailed in this case series, offers valuable insights into optimizing sedation practices. The study evaluates six patients, evenly split between the two drugs, focusing on sedation quality, hemodynamic stability, and respiratory outcomes. It is evident that dexmedetomidine outperforms propofol, achieving faster sedation and maintaining lower pulse rates and blood pressure, which are critical for patient safety during such delicate procedures. This suggests that dexmedetomidine's pharmacological profile may better suit the nuanced demands of awake intubation, though oxygen saturation levels remained comparable. Taking this further, the findings prompt reflection on whether dexmedetomidine's advantages extend to broader surgical contexts, particularly where hemodynamic stability is paramount. However, the small sample size raises questions about generalizability, underscoring the need for larger studies to confirm these observations.***

Keywords: dexmedetomidine, propofol, awake fibreoptic intubation, sedation, hemodynamic stability

1. Introduction

- This case series compares the efficacy and hemodynamic stability of dexmedetomidine versus propofol as a pre anesthetic medication in awake fibre optic intubation.
- Time duration for the patient to get sedated and the hemodynamic stability with both the drugs was compared here DEXMEDETOMIDINE
- Administered intravenously, dexmedetomidine is indicated for the sedation of initially intubated and mechanically ventilated patients during treatment in intensive care settings, and for the sedation of non-intubated patients prior to and/or during surgery and other procedures.1

2. Propofol

Propofol is a phenol resulting from the formal substitution of the hydrogen at the 2 positions of 1, 3-diisopropylbenzene by a hydroxy group. It has a role as an intravenous anaesthetic, a sedative, a radical scavenger, an antiemetic and an anticonvulsant.

3. Case Discussion

6 Patients electively posted for surgery requiring awake fibreoptic intubation were selected for the study.
6 PATIENTS
GROUP D
GROUP P
USING DEXMEDETOMIDINE AS PRE USING PROPOFOL AS PRE MEDICATION

- After verbally explaining awake fibreoptic intubation infomed consent was taken.
- Once inside the operating room, intravenous cannula secured and IV fluids and pre medication of 1mg Midazolam given.
- Following this, based on weight and dose calculation, 3 out of 6 patients were given dexmedetomidine as pre medication before the starting of awake fibreoptic and the other 3 were given propofol as the pre medication.

Case Proforma Sheet: Comparison of Dexmedetomidine and Propofol for Sedation

- Patient Information-Patient ID: _____
- Age: _____-Sex: _____
- Weight: _____
- Sedation Details-Sedation Agent: Dexmedetomidine / Propofol (circle one)-
- Dose: _____-Route: _____
- Post-Sedation (5 min) | Post- Sedation (10 min)
- Time taken to sedate (min) Pulse Rate (bpm) Blood Pressure (mmHg)
- SPO2 (%) |Additional Notes-Ease of sedation: Easy / Moderate / Difficult-Patient's comfort level: Comfortable / Uncomfortable
- Adverse events: Yes / No

Objective

To describe and compare the efficacy and safety of dexmedetomidine versus propofol as pre-anesthetic medications for awake fibreoptic intubation in terms of:

1) Sedation quality: Assessing the level of sedation, patient comfort, and ease of intubation.
2) Hemodynamic stability: Evaluating changes in heart rate, blood pressure, and oxygen saturation.
3) Respiratory stability: Monitoring respiratory rate, tidal volume, and oxygen saturation
4) Recovery profile: Assessing the time to recovery, post-operative nausea and vomiting, and patient satisfaction
5) Complications: Documenting any adverse events, such as hypoxia, hypertension, or respiratory depression.
6) By comparing the outcomes of patients receiving dexmedetomidine versus propofol as pre-anesthetic medication for awake fibreoptic intubation, this case series aims to provide insights into the optimal choice of sedation for this procedure.

DEXMEDETOMIDINE VS PROPOFOL
SEDATION HEMODYNAMIC STABILITY DURATION OF ACTION GRP D GRP P Column1

4. Result

- The results of this case series suggest that dexmedetomidine may be a more effective sedation agent than propofol for awake fibreoptic intubation. Dexmedetomidine was associated with a faster time to sedate, lower pulse rate, and lower blood pressure compared to propofol. However, the difference in SPO2 values between the two groups was not statistically significant. These findings support the use of dexmedetomidine as a preferred agent for sedation during awake fibreoptic intubation.

5. Conclusion

- Dexmedetomidine is a more effective sedation agent than propofol for awake fibreoptic intubation, providing faster sedation, better hemodynamic stability, and comparable oxygen saturation levels.
- This conclusion is based on the statistically significant differences observed between the dexmedetomidine and propofol groups in terms of time to sedate, pulse rate, and blood pressure.

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