

Intravenous sedation safety for the over 65-year-old patient; A 3-year service evaluation

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BACKGROUND

It is well established practice to adjust one's midazolam titration regimen for the older patient, indeed 'as little as 2mg of midazolam' is quoted a sufficient dose for effective sedation in many patients over 65 years¹.

Often with advancing age comes increased medical complexity and as such invasive operative procedures requiring intravenous sedation (IVS) can pose a greater challenge for the dental team. Many sedation dentists are rightly cautious when carrying out treatment in this group for fear of adverse events but is this concern reflected in the data?

AIMS

- To assess the success or otherwise of single drug IVS carried out in the dental unit at a district general hospital on patients 65 and over.
- To define the patient groups most commonly sedated, their treatment outcomes and any adverse events or complications that occurred.

How safe is our current practice for the older IVS patient?

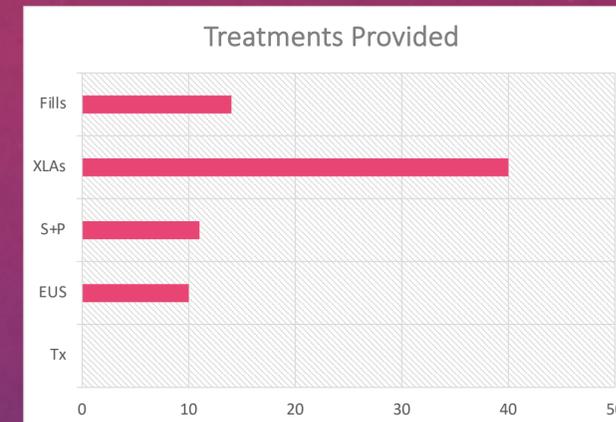
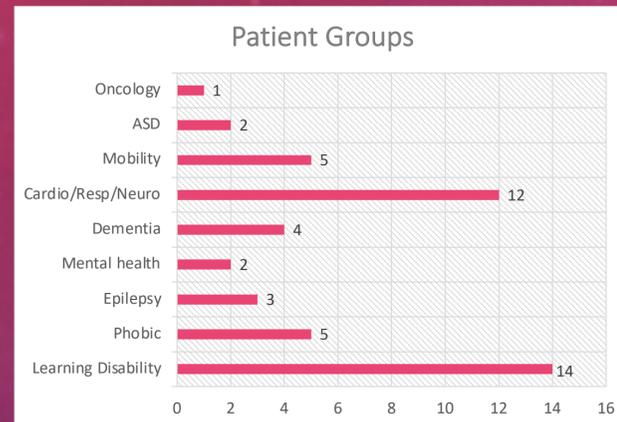
METHOD

Inclusion criteria

Patients 65 years and over having received single drug IVS in the Dental unit in the last 3 years

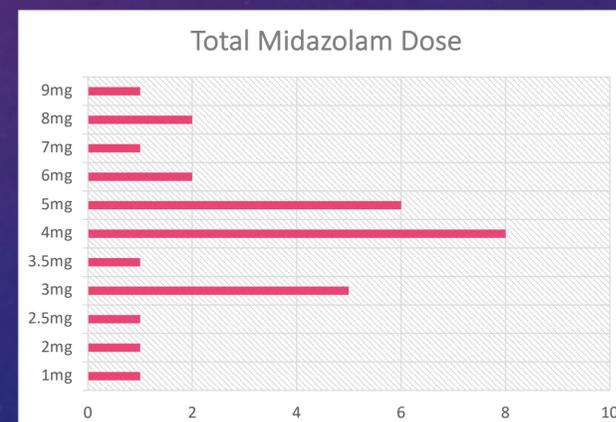
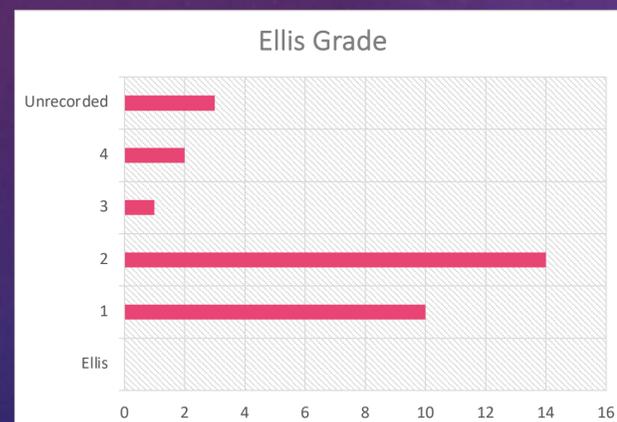
Intravenous operative logbooks were reviewed by a sedation dentist from November 2017 to November 2020.

The following data fields were collated: age, Ellis Grade, total IV midazolam dose, treatment provided, complications and flumazenil usage.



RESULTS

- **30 cases** were included in the 3-year period.
- Average age was **71**, the oldest case was 85 years.
- **Intranasal** sedation was conducted in **2/30** cases.
- **80%** were graded **Ellis II or below**.
- The average total IV midazolam dose was **4mg** ranging from **1mg to 9mg**.
- **1 case** was graded Ellis IV and was the only case that required **flumazenil** reversal.
- **No other adverse events or complications** were noted.
- A total of **10 EUS/S+P, 40 extractions and 14 restorations** were provided.
- **2 cases** utilised a **wheelchair recliner** (this only became available for use in the last 6-months of the evaluation period).
- All but 1 of the 30 cases were conducted by **Special Care dentists** with the exception carried out by oral surgery colleagues.



DISCUSSION

Interestingly, over 25% of this data set received 4mg total midazolam dose, double the amount remarked upon in the literature¹.

The litigious nature of UK dentistry may result in more risk-averse clinicians favouring anaesthetic-led advanced IVS techniques or even GA since the anaesthetic burden is laid on our anaesthetic colleagues. However, this evaluation demonstrates within this setting the relative risk of sedating the older patient is in fact not as one might imagine when consulting the literature.

Advancing age does not necessarily denote increasing dental operative fragility. IVS can be an excellent alternative to GA especially in the age of GA scarcity during a pandemic. Indeed Scully et al state benzodiazepine IVS is preferable to opioids in this patient group and should be encouraged where appropriate². Sedation dentists should have confidence in their management of the older patient with standard benzodiazepine IVS techniques.

ACTIONS

- Accurate and complete record keeping is paramount for service improvement, 30% of the cases did not have an Ellis grade recorded and 1 case omitted the total midazolam dosage given. Sedation record keeping can be addressed at update training as part of the required 12hours CPD cycle.
- Development of this service evaluation could include ASA classification and airway assessment scores.
- Further exploration could compare standard vs advanced, multi-drug sedation practices.

References

1. 'Practical Conscious Sedation' David Craig, Meg Skelly, Volume 15, page 84
2. 'Special Care in Dentistry: Handbook of Oral Healthcare' Crispian Scully, Pedro Diz Dios, Navdeep Kumar, 2007, page 158.