

Peer Review File

Article information: <https://dx.doi.org/10.21037/joma-23-37>

Reviewer A

Dear Editor,

I feel honoured with your invitation to review the manuscript entitled "Intravenous sedation for dentistry in Japan - Current clinical features of our department". The manuscript topic is relevant and well-written. I noted several strengths in the manuscript. Explicit text structure is appreciated. The title is precise.

Although the review article carries much strength and covers a relevant area, I suggest some minor modifications. The following are my comments:

-English language and style require minor spell check

This manuscript has been brushed up by professional native English editor. Please indicate which part is more corrected. We do not hesitate to refer to the English editor. The revised part has not been checked by the editor. If you allow us time to check them, we will her to check them.

-references should be more recent if possible (from 2014)

We searched more recent references, however, more appropriate references were not found.

We have added some references.

-reference number 9 : the link doesn't work

I checked this web page, and found it revised. I added the recent web page. The statistical numbers are now provided by a spread sheet.

Government U. Episodes of children and young adults being admitted to hospital for tooth extractions from 2021 to 2022. In: Disparities Of Hla, editor. 23 February 2023. With spread sheet

In essence, the study topic, write-up, structure and presentations are satisfactory. The study findings may contribute to the current field of the area. As it stands, the manuscript requires minor modifications before it is accepted.

I congratulate the authors for their efforts preparing the manuscript.

Good luck with current and future endeavours.

Reviewer B

Introduction

It should be noted that both children and adults can be treated with sedation and anesthesia.

We added the following descriptions.

Thus, the certified dental anesthesiologists should provide anesthesia to dental patients, either, adults and children, who requires anesthesia.

Optimal sedation level for dentistry

This section requires some references.

We added references with the following descriptions.

Sedation level for gastrointestinal endoscopy has been discussed, and relatively larger dose is suggested {Kiryama, 2010 #3183}. However, the optimal sedative level depends on the procedure. Since the upper airway cannot be easily manipulated during dental treatment, the controllable range for dental sedation is limited.

The combination of midazolam and propofol is advantageous to avoid cardiovascular and respiratory adverse effect {Yamamoto, 2018 #3184}) as this study demonstrated.

Current monitoring of intravenous sedation

- **This paragraph should start by explaining the basic equipment /requirement for monitoring.**

We added the following sentences.

Once the anesthesia level becomes deeper closely to general anesthesia, respiration becomes crucially depressed. Thus, the monitoring of respiration has to be mandatory during sedation. Pules-oximetry is a reliable monitoring for oxygenation. However, impending crucial airway obstruction and respiratory depression has to be predicted before desaturation occurs. Such respiratory depression largely depends on the level of consciousness.

- **When mentioning EEG for the first time, please use its full name.**

We added the device name. (for example, Sedline™ Masimo Co.Ltd.)

- **How about the oxygen saturation during the sedation?**
SpO2 should be maintained more than 96-97%. We failed to find the appropriate part to insert the description.

Anesthesia for pediatric dentistry

In this section, the authors report the contraindication which is the age under 12 years old. It would be more interesting if the authors added the example of the pediatric case that needs IV sedation.

We added the following sentences.

Applying general anesthesia instead of sedation would not be appropriate for a certain dental treatment which needs repetitive treatment, for example, dental root canal treatment. However, sedation for pediatric patients involves a higher risk of respiratory failure than in adults. Higher skill levels and training are required to provide safe sedation care in pediatric patients because critical events are more likely to occur incidentally when non-specialists provide sedation (Fig 4). Even if exclusive monitoring by the certified anesthesiologists may not help rapid failure of respiration caused by anesthesia-related airway obstruction. Our hospital does not provide

intravenous sedation to pediatric patients under the age of 12 years even though it could be provided by the certified anesthesiologists.

It would be helpful if the authors provided information regarding the necessary personnel for sedation treatment. Specifically, it would be useful to know if one anesthetist and one operator (such as a dentist) are required, and whether an additional monitor (such as a dentist or nurse) is necessary.

We added the description in Introduction.

Anesthesia can be provided to dental patient, if the provider is certified as a dentist in principle, however, most anesthesia presumably is provided by the certified dental anesthesiologists.

It would be more interesting if the authors mentioned safety in treatment under sedation, such as the percentage of serious complications that occurred in the past 10 years.

We added the following information.

The Japanese society of Dental anesthesiology disclosed the statistical data for the safety of dental anesthesia between 2014 to 2018 {Sanuki, 2023 #3130}. In this report, the incident rate of the overall life-threatening events related to sedation provided by the certified dental hospital was 0.31/100,000 cases. Thus, the sedation provided by the specialized facility for dental anesthesia is safe in Japan.