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In Reply to: An observational case-control study comparing the recovery profile in patients receiving additional dose of anticonvulsant vs. regular dose during supratentorial craniotomy

Sir,

We read with interest the article by Mathew *et al.* where authors observed that patients receiving phenytoin therapy for >7 days prior to surgery had a clinically significant delay in recovery from anaesthesia after receiving an additional dose of 300 mg of intravenous phenytoin following anaesthetic induction.[1] This is most commonly attributed to the sedative property of phenytoin.[2,3] We too encountered an unusual scenario of phenytoin (loading dose) induced excessive sedation and decreased bi-spectral index (BIS) scores during awake craniotomy.[2] Similarly, Bithal *et al.* also observed that patients who received phenytoin preoperatively had lower BIS scores as compared to controls.[3] This brings forth certain valid queries for which we do not have clear answers at present.

First, should BIS be used routinely to monitor anaesthetic depth in patients receiving phenytoin? Patients on phenytoin who receive inhalational anaesthesia may have a deeper plane of anaesthesia than desirable if monitoring is done only using minimal alveolar concentration (MAC). Multiple studies have demonstrated poorer outcomes with excessive anaesthetic depth.[4] Second, what should be the optimal MAC in such patients if BIS is not monitored? Third, what should be the anaesthetic plan for patients who receive multiple antiepileptic drugs? The median time to complete orientation was 120 min in patients who received an additional dose of phenytoin.[1] This duration is significant and could mask early recognition of intracranial complications. Therefore, fourth, after how much time of anaesthetic discontinuation should patients be investigated (CT scan) for causes of delayed orientation? Patients with significant blood loss who received large-volume fluid replacement demonstrated sub-therapeutic phenytoin levels. However, the authors did not find its association with postoperative seizures.[1] Hence, last, do these patients require an additional dose of phenytoin?

We hope these queries will be answered in future studies.

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Conflicts of interest

There are no conflicts of interest.

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REFERENCES

1. Mathew RR, Raju K, Nair BR, Mariappan R. An observational case-control study comparing the recovery profile in patients receiving additional dose of anticonvulsant vs. regular dose during supratentorial craniotomy. Indian J Anaesth 2020;64:222-9.

2. Khandelwal A, Sokhal N, Kumar N, Singh S, Sokhal S. Phenytoin-induced excessive sedation during awake craniotomy: An unusual observation. J Neurosurg Anesthesiol 2019;31:87-8.
3. Bithal PK, Pandia MP, Chouhan RS, Prabhakar H, Rath GP, Dash HH, *et al*. Effects of phenytoin therapy on bispectral index and haemodynamic changes following induction and tracheal intubation. Indian J Anaesth 2009;53:187-92.
4. Leslie K, Short TG. Anesthetic depth and long-term survival: An update. Can J Anaesth 2016;63:233-40.

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