



ARTICLE OF THE MONTH

Perioperative Management of Direct Oral Anticoagulants in Intracranial Surgery

John Porter, MD, FRCA, FFICM and Judith Dinsmore, FRCA

Happy New Year 2021! As we move forward into another exciting year, we continue to keep the SNACC educational goals in mind. Here is wishing everyone a happy and healthy year ahead. Our commentary this month is courtesy Drs. Priya Gupta and Indranil Chakraborty.

Priya Gupta MBBS, MD is Clinical Associate Professor of Anesthesiology in the Div. of Neuroanesthesiology at University of Arkansas for Medical Sciences in Little Rock, Arkansas. She graduated medical school from Lady Hardinge Medical College in New Delhi, India and has complete two Anesthesiology residencies, one from Maulana Azad Medical college and second one from University of Arkansas for Medical Sciences. She is Associate Director of Didactic & Curriculum Development.

Indranil "Neil" Chakraborty, MBBS, MD, DNB is Professor of Anesthesiology & Tenured Clinical Educator. He is Director, Division of Neuroanesthesiology at the Dept. of Anesthesiology in University of Arkansas for Medical Sciences at Little Rock, Arkansas. He is member of Clinical Affairs Committee, Trainee Engagement Committee & Diversity & Inclusion Committee at Society for Neuroscience in Anesthesiology & Critical Care (SNACC).

As always, readers are welcome to join us for further discussion and feedback on the SNACC [Twitter](#) feed, or on [Facebook](#).

- Shilpa Rao, MD, Amie Hoefnagel, MD, Oana Maties, MD, and Nina Schloemerkerper, MD

Commentary

Reviewers:

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Managing patients who are on direct oral anticoagulants (DOACs) is a clinical dilemma because of several reasons. To begin with, there has been a recent surge in the number of these medications in the marketplace, and this number is likely to grow in the near future considering the popularity and clinical success of these drugs. To add to the confusion, there is often limited clinical experience along with lack of general awareness and clear guidelines about their usage.

This is where this review article is extremely useful for all anesthesiologists in general and neuro-anesthesiologists in particular. It systematically reviews the DOACs currently in clinical use, their perioperative management in elective intracranial surgeries, as well as under emergency conditions such as traumatic brain injury (TBI) and intracranial hemorrhage (ICH). The authors also discuss the latest techniques available to monitor the anticoagulant effects, and present specific antidotes available to reverse the effects of DOACs under emergency circumstances.

The authors mention that perceived and proven clinical and outcome advantages of DOACs over traditional anticoagulants (e.g. vitamin K antagonists such as warfarin) have resulted in widespread clinical use, especially in elderly population. This demographic is increasingly presenting for elective and emergency intracranial procedures.

The authors make several clear and easy-to-follow recommendations regarding perioperative clinical use of DOACs including timing of DOAC interruption, bridging therapy, thrombosis risk, and restarting anticoagulation. The authors caution that most of the scientific evidence available for DOACs specifically exclude very high risk patient groups such as intracranial surgeries. Therefore, they recommend extreme caution & careful approach in managing these patients considering catastrophic harm associated with bleeding in neurosurgical patients.

This article is succinct, is easy to understand and the recommendations are practical and logical. The article is highly recommended for surgeons and anesthesiologists alike.

