Introduction of anaesthesia podcasts in our system - A pressing priority for the betterment of clinical practice

Sir,

Podcasts in medicine are valuable educational tools to aid in better clinical practice. Podcasts are digital audio files that give insight into various topics and are accessible through a Smartphone or a Computer. Anaesthesia podcasts will be fruitful in learning clinical updates, clarifying grey areas in the subject and getting to know what’s new.

Countries such as the United States, Canada have an anaesthesia podcast series that is running successfully. Podcasts can be didactic lectures, panel discussions and interesting case scenarios. In India, we lack anaesthesia podcasts which could serve as a learning platform for the anaesthesia postgraduates and the practising anesthesiologists as well. An audit among anaesthesia residents in India observed their interest in academic updates and learning recent advances.[1]

Podcasts are a magnificent e-learning modality that can deliver the facts in a simple style. Audio podcasts are easy to produce and can be listened to while in a commute or during leisure activities. Standard textbooks in anaesthesia will need ample time for the next edition to get published; whereas, podcasts can convey the current evidence straightaway. A survey among anaesthesia residents had concluded that podcasts are a welcoming and preferable mode of learning among them.[2] International journals in anaesthesia publish an accompanying podcast with the editorial article or special articles.[3]

In this technological era, any professional has got easy access to the web through the gadgets at any time. Podcasts have gained popularity among the anaesthesia residents as a sensible resource of knowledge. Postgraduates may find it handy to recap the topics before their exams while clinicians may refresh their knowledge before an unfamiliar case scenario. Any updates in the previous clinical podcasts can be addressed in the forthcoming ones. Various institutional protocols and knowledge of
Table 1: Desirable features of a podcast

| Podcast features | Examples |
|------------------|----------|
| Content          | Basic science, Clinical topics, Case discussion, Current guidelines |
| Audio podcast    | Didactic lectures, Journal views, Model oral exams |
| Video podcast    | Procedural skills |
| Duration         | 30-45 min |
| Quality          | Evidence-based literature, Peer review, Quality indicators |
| Self-assessment  | Post lecture multiple choice questions (MCQs) |
| References       | Link to articles, Video files, YouTube links, Slides |
| Accessibility    | Website, Apps, Downloadable |
| Technological aspects | Quality hardware (e.g., Microphone), Good audio recording software, Standard E-Portal, Hassle-free user interface |

Individual expertise can be shared nationwide through podcasts to help with clinical knowledge and tough clinical decisions. Daniel et al.\textsuperscript{[4]} highlighted positive educational outcomes of podcasts with respect to impact on clinical practice, skill acquisition, knowledge and satisfaction. Self-assessment tests at the end of the podcasts will assist in conserving knowledge. Table 1 highlights the desirable features of a podcast.

There are equivocal reviews about the production costs involved in a podcast. Nevertheless, the cost relies on hardwares, audio interface and the e-portals chosen to publish the podcast.\textsuperscript{[4]} Ease of use, access at any time, unlike a webinar or Continuous Medical Education (CME) programme, downloadable option, cost-effectiveness and quality presentations will make podcasts a future boom. The moving trend towards digital education in the pushing times of the current pandemic will favour podcasts as a wonderful choice for anaesthesiologists. However, the challenge here is the quality of the podcast in all aspects. Lin and colleagues reported thirteen quality indicators for podcasts used in medical education with respect to credibility, content and design which could be considered in evaluating the quality of a podcast.\textsuperscript{[5]} The criteria that is to be met for an expert peer reviewer is either an author of a published textbook, peer-reviewed article or a national speaker. Peer review can be done in the pre-release phase of the podcast.\textsuperscript{[6]} The workflow of podcast production is represented in Figure 1.

The educators could verify that the contents are evidence-based and peer review can be done by the expert reviewers before it is presented in the public forum. Quality of the podcast could be prioritised based on content, evidence, concise presentation, clarity and being uncompounded. Indian Society of Anaesthesiologists (ISA) could address the initiation of anaesthesia podcast series for the benefit of anaesthesiologists and establishing better standards in clinical practice nationwide.

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There are no conflicts of interest.

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Sir,

Protein S is a vitamin K-dependent plasma glycoprotein synthesised in the liver. It functions as a cofactor to protein C in the inactivation of Factors Va and VIIIa in the anticoagulation pathway. Protein S deficiency predisposes individuals to deep vein thrombosis which may lead to pulmonary embolism. In humans, protein S is encoded by the PROS1 gene and mutations in this gene lead to Protein S deficiency. Protein S deficiency may be acquired as a result of nephrotic syndrome, liver disease, pregnancy, oral contraceptive use and chemotherapy.

A 29 year old man was listed for right tympano-mastoidectomy. At the age of 23 years, he developed parietal haematoma and convulsions. He was managed conservatively and started on levetiracetam 500 mg. The following year he had superior mesenteric vein thrombosis. He was found to be Protein S deficient. Protein S activity was 68% with biological reference interval 77-143%. Protein C activity was 93% (70-130%). Anti-thrombin III activity was 96% (80-120%). Phospholipid antibody was negative. Lupus anticoagulant was absent. He was started on rivaroxaban 15 mg. At the age of 26 years, the patient had deep vein thrombosis and pulmonary embolism. Catheter -directed thrombolysis was done and inferior vena cava (IVC) filter was placed which was removed after 2 years.

Presently, his haemoglobin was 17.6, haematocrit 50.4, platelet count 172,000 and serum creatinine was 0.80. Chest X -ray and 2D echo were normal. Rivaroxaban was stopped 48 hours preoperatively. Prothrombin time-international normalised ratio (INR) was 1.26 and activated partial thromboplastin time (APTT) was 32.9. He was not started on any form of heparin. In view of raised haemoglobin and haematocrit, the patient was started on intravenous fluids on admission. In the operation theatre, intermittent pneumatic compression of calves (Arjohuntleigh® flowtron excel DVT pump) was attached for thromboembolism prophylaxis. Standard monitors including non-invasive blood pressure, oxygen saturation and five lead electrocardiograms were attached. Anaesthetic medications included midazolam, fentanyl, propofol, atracurium and sevoflurane in air/oxygen mixture. Induction was done with graded aliquots of anaesthetic agents to prevent fall in blood pressure. Reduced cardiac output...