Converting Regional Anaesthesia Database into Publication: A Step-based Approach

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Abstract

The article discusses the benefits of regional anaesthesia (RA) and the role of point-of-care ultrasound (POCUS) in enhancing its safety and efficacy. Conducting randomized controlled trials (RCTs) to establish the efficacy of RA remains a challenge due to resource constraints and ethical considerations. The author suggests that focusing solely on RCTs can be counterproductive and advocates for the importance of other forms of research, such as case series, practice audits, and prospective observational cohort studies. These forms of research can provide a background and rationale for designing future RCTs and can help broaden the scope of research beyond the idealistic RCT paradigm. The passage also includes a table highlighting the pros and cons of different study designs. Overall, the article emphasizes the importance of expanding the scope of research to improve the safety and efficacy of RA.

Keywords: Regional anaesthesia, Point-of-care ultrasound, Randomized controlled trials, Case series, Practice audits, Prospective observational cohort studies, Efficacy, Safety
quintessential scientific discoveries into limelight. This not only shifts the focus from what's ideal to what's achievable and available but also provides a background, rationale and hypothesis on which to design future RCTs. Another way to address above concern is to design research in a way to include either a control arm that only includes general anaesthesia or a comparison of two different regional anesthesia techniques. Table 1 highlights some of the pros and cons of above study designs [6].

Below are some of useful pointers to reflect upon when preparing the manuscript:

- **Indication:** Unbacked by the bias-control processes inherent to a RCT, novelty and transparency are the hallmark of these non-experimental designs. A novel procedure or novel indication, consideration or approach to an established procedure are usual indications which fall under the purview of these designs.

- **Prospective, systematic and transparent record of findings:** What's come in handy is the researcher's zeal to document findings brushing away the evils of recall and reporting bias.

- **Clinical images:** Clinical images depicting fluoro-or sono-anatomy, needle trajectory, drug distribution supplement the theoretical description and help the readers to visualize and contextualize what the authors observed and want to depict. It is critical for all images to be anonymized, untampered and respectful to the and consented for by the patients [14].

- **Selectioning Journal:** It is important to ensure that the manuscript is in line with the aims and scope of a journal. A 2021 bibliometric analyses of RA research across major biomedical databases provides a list of top 50 journals with major focus of RA; top ones being Anaesthesia and analgesia, Acta Anaesthesiologica Scandinavica, Anaesthesiology, British Journal of Pain and Regional Anaesthesia and Pain Medicine [8]. Besides, recent times have seen the emergence of a number of journals dedicated solely for case reports with acceptance rates higher than that of other journals [9, 10].

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<th>Table 2: Study designs and reporting guidelines</th>
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<td>Study design</td>
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<th>Table 1: Pros and Cons of converting database into practice</th>
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<td>Pros</td>
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<td>Depict findings in real-world setting compared to controlled environment of a RCT</td>
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<td>Requires less time to retrieve data</td>
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<td>Ethics clearance usually not required for case reports and case series (although institutional practices might differ)</td>
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<td>Less resource intensive</td>
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<td>Helps in generating research questions and hypothesis for future RCT</td>
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<td>Good starting point for novice researchers</td>
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**Must Have**

1) Demographic details with procedural consent
   - BMI (Body mass index)
   - Point of LA deposition: Intraneural/subparaneural/Facial plane/circumferential
2) Diagnosis with Anaesthesia care plan
   - Contact number to follow up for complications
   - Inervation of the surgical area
3) Approach to target nerves: Landmark/Peripheral nerve stimulator guided/USG guided
   - Sono-anatomy of target area: expected/Actual
   - Procedural sedation
   - Drug/Dose/Concentration
4) Procedural data: Drug/Volume/concentration Single shot/continuous catheter
   - Needle used: Gauge/Length/Stimulating: ecogenic
   - Duration of surgery
5) Targeted nerves/spared nerves
   - Patient position
   - Equipment settings
6) Onset and Duration of sensor/motor blockade
   - Rescue block/Anaesthesia/alternate anaesthesia technique
   - Aspects precaution details: Skin/probe/coupling medium
7) Block-related complications; immediate/LAST/delayed
   - The extent of surgical stimuli: Skin/Muscle/Bone
   - Comorbidities

such as one promoted by AORA ensures prospective, systematic, transparent and complete real time recording of findings such as one promoted by AORA ensures prospective, systematic, transparent and complete real time recording of findings brushing away the evils of recall and reporting bias.

- **Reporting guidelines:** Reporting guidelines provide a structured format and checklist of important elements of a manuscript and where to document. The EQUATOR (Enhancing the Quality and Transparency of health research) network website ([https://www.equator-network.org/](https://www.equator-network.org/)) maintained by the Centre for Statistics in Medicine, University of Oxford offers a one-stop reference point for various study designs and reporting guidelines to be adhered to for each of them. Table 2 highlights various study designs, recommended reporting guidelines and a link to each of them.
Conclusion:
The advent of ultrasonography has led to an unprecedented advent of new and new RA techniques and procedures everyday. Although RCTs provide highest level of evidence required to make policy and practice recommendations; the time, resources, training and ethical requirements make them out of reach of many especially in stand-alone, resource constrained settings. The need of the hour for all RA enthusiasts is to maintain a prospective, transparent and systematic record of their findings to translate the same into non-experimental study designs like case reports, case series and observational studies. To achieve the same, open-access resources and guidelines are available from a number of professional organisations like AORA and EQUATOR network. This not only provides an opportunity to naives to hone their writing skills but also provides rationale, hypothesis and training-on-the-go to conduct RCTs later on.

References


Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his/her consent for his/her images and other clinical information to be reported in the Journal. The patient understands that his/her name and initials will not be published, and due efforts will be made to conceal his/her identity, but anonymity cannot be guaranteed.

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