Intercollegiate Specialty Fellowship Examination

Part A

Oral Surgery

Critical Appraisal

Note: Parts of the sections within the original article are not relevant to this examination and have been redacted. Including parts of pages 1643, 1644, 1646, 1647 and 1648.

Extract – 29 marks

[The Efficacy of 4% Articaine Versus 2% Lidocaine in Inducing Palatal Anesthesia for Tooth Extraction in Different Maxillary Regions - Journal of Oral and Maxillofacial Surgery (joms.org)](#)

1. Which two important elements of the CONSORT checklist regarding the methods (trial design) are missing from this manuscript? For each, discuss how this may affect interpretation of the results of this trial. **(4 marks)**

2. The authors state that they conducted a double-blind study.

   a) What does this mean in the context of this trial? (1 mark)
   b) Explain how lack of blinding could have biased the results of this study based on the different players involved and how important blinding in this trial would have been (3 marks)
   c) What degree of confidence can be placed on the effectiveness of the blinding in this trial based on the information given by the authors? (1 mark)

   (5 marks total)

3. The authors stated that they used stratified randomisation.

   a) What does this mean in the context of this trial and what is the purpose of this stratification here? (2 marks)
   b) What assumption do the authors make? E.g. why do they think stratification is necessary? (1 mark)

   (3 marks total)

4. The authors recruited 100 patients with anterior teeth,100 patients with premolars and 100 with molars to be extracted.

    Was this 'balancing' crucial to receive an unbiased estimate of the difference between the two local anaesthetics? Give a reason for your answer.   **(1 mark)**

5. The following questions relate to **Table 1**.

    a) What is the purpose of the information in **Table 1**? (1 mark) Why is this kind of table important enough to be listed in the CONSORT statement? (1 mark)

    b) The authors report a p-value for age in **Table 1**. What probability is this p-value describing? (1 mark)

    c) How meaningful are statistical tests to compare the baseline parameters between experimental groups here and why? (2 marks)

    (5 marks total)

6.
    a) Discuss the outcomes chosen by the investigators in terms of their clinical relevance (1 mark) and in terms of the concept of surrogate vs. hard endpoints (2 marks)
    b) Discuss the goal of LA in tooth extraction in this context (1 mark)
    (4 marks total)

7. Based on the results presented by the authors, please suggest three clinically relevant conclusions (assuming there is no bias in the reported results).   **(3 marks)**

8. Assuming no bias and based on the data reported in **Table 2**, what proportion of patients can be successfully anaesthetised palatally with the buccal injection of 1.2ml articaine 4%?   **(1 mark)**

9. Discuss how the results of this study could impact clinical practice, i.e., as a result of this study should palatal anaesthesia be given when using articaine 4%? Please give reasons.   **(3 marks)**

Total Marks for Extract = 29