



The Correctness of Technique and Anesthetic Success of Inferior Alveolar Nerve Block Performed by Dental Trainees in Clinical Years

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Introduction

Inferior alveolar nerve block is the most common injection technique for mandibular teeth. The correctness of technique and anatomical landmark identification are necessary for anesthetic success.



Objective

To compare the correctness of technique and the anesthetic success in performing IANB between inexperienced and experienced dental trainees.



Materials and Methods

Both groups of dental trainees administered local anesthesia to 47 volunteers by using 2% mepivacaine with 1:100,000 epinephrine, 1.8 milliliters, performed into two injections of IANB on the left side at least 2 weeks apart. The dental trainees were assessed during the injection based on the 10 criteria by an oral and maxillofacial surgeon. After the injection, the success of the anesthesia was evaluated using an electric pulp tester on a left mandibular premolar.



Data analysis

- The correctness of technique and anesthetic success between the two groups were compared via McNemar test.
- Total score of 10 criterion of correctness via Wilcoxon signed-rank test (matched pairs).
- The correlation between each criterion of correctness and anesthetic success was determined via Chi-square test and Fisher exact test.
- The correlation between total score of 10 criteria of correctness and anesthetic success via Likelihood ratio.
- 0.05 significance level.



Result

- The median of total score of 10 criteria in experienced and inexperienced dental trainees were 7(3) and 5(2)
- In four criteria including syringe placement, parallelism of the syringe, anteroposterior site of injection, and depth of needle penetration with significant difference.
- No significant difference in the anesthetic success.
- The height of injection and depth of needle penetration were correlated with anesthetic success.

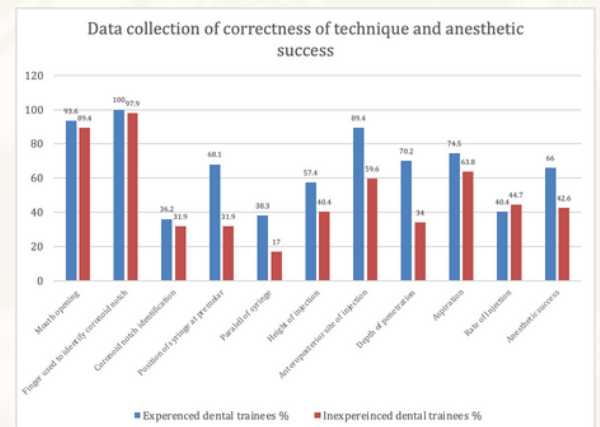


Figure : Bar chart showed percentage of correctness of technique of IANB in each criterion and anesthetic success



Conclusion

Both of dental trainees shown differences in correctness of technique but no difference in anesthetic success. Therefore, they still need to acquire more understanding on anatomy and accumulate experience in order to improve their skills and minimize the possibility of errors.

Keywords: anesthetic success, correctness of technique, dental trainees in clinical years, inferior alveolar nerve block

