

Survey On Knowledge And Treatment Of Hot Tooth Syndrome By General Dental Practitioners

Research Article

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Abstract

Introduction: Hot tooth is described as the tooth which is diagnosed with irreversible pulpitis with a spontaneous increase in the intensity of pain. This tooth can't be fully anesthetized. The survey is conducted by preparing a questionnaire that could access the knowledge of general dental practitioners about hot teeth and the treatments that they perform.

Aim: A Survey on knowledge and treatment employed for hot tooth syndrome by general dental practitioners.

Objective: A survey that accesses the knowledge and treatment that general dental practitioners perform for hot tooth syndrome.

Materials and Methods: A survey consisting of 10 questions was sent through an online google form. With a total of 54 respondents the survey results were conducted.

Results: All the respondents had knowledge about Hot tooth syndrome. Only 87% had come across such a situation in treating hot tooth syndrome during their regular clinical practice. 18.5% of the respondents had the idea of pre-medication to this condition, the others were not aware of the same.

Conclusion: The overall consensus was that a part of the general practitioners were aware of how to treat such patients and few others needed to learn how to handle this situation and the treatment modalities and boost their confidence in treating such patients. This can be achieved by attending workshops or lectures.

Keywords: Hot Tooth; Anesthesia; Pain; Endodontics; Pulpal Anesthesia.

Introduction

A hot tooth is basically a tooth that is diagnosed with irreversible pulpitis. The intensity of the pain will increase spontaneously from moderate to severe [1]. Inflammatory changes within the pulp progressively worsen as a carious lesion [2] nears the pulp. This further develops and leads to a hot tooth. Hot tooth syndrome can be described as a patient who is sitting in the waiting room, sipping on a large glass of ice water to help control the pain. Such a tooth can't be fully anesthetized. Achieving this has always been a cornerstone in the field of endodontics. Methods like increasing the dosage of anesthesia given or giving supplementary injections to obtain complete pulpal anesthesia. It is very necessary to know that complete anesthesia is obtained before

starting the treatment for a hot tooth. The use of an electric pulp tester (EPT) or the application of a cold refrigerant has been shown to accurately determine pulpal anesthesia in teeth with a normal pulp before treatment [3-5]. When debridement is not possible dentists may prescribe strong analgesics and penicillin in an attempt to relieve the pain. In symptomatic teeth with irreversible pulpitis, a high rate of local anesthetic failure is due to prostaglandin-induced sensitization of peripheral nociceptors [6]. Peripheral terminals of nociceptors express receptors that can detect chemical and physical stimuli which results in the activation of ion channels. Inflammatory mediators such as prostaglandins produce their effects by binding to protein receptors. Thus, interventions that decrease the overall concentration of prostaglandins, lead to reduced activation of receptors. Henceforth, prostaglandins are interrupted and it may increase the efficacy of

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Received: May 05, 2021

Accepted: June 20, 2021

Published: June 29, 2021

Citation: R. Preethi Mariona, S. Delphine Priscilla Antony. Survey On Knowledge And Treatment Of Hot Tooth Syndrome By General Dental Practitioners. *Int J Dentistry Oral Sci.* 2021;8(6):2889-2893. doi: <http://dx.doi.org/10.19070/2377-8075-21000563>

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local anesthetics [7]. Previously our team has a rich experience in working on various research projects across multiple disciplines [8-22] Now the growing trend in this area motivated us to pursue this project.

Materials And Method

Study Sampling

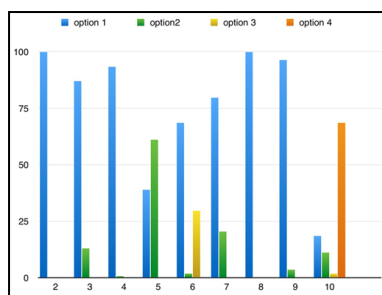
A cross-sectional study was conducted by preparing a questionnaire with 10 Questions. The questionnaire contained questions that could access the knowledge, attitude, and practice of treating patients with hot tooth syndrome. This survey was conducted among 54 dental practitioners.

Questionnaire

1. _____ years of practice in dentistry.
2. Are you aware of what is hot tooth syndrome?
a) Yes. B) No
3. If yes, have you treated patients with the hottest?
a) Yes. B) No
4. Does the dosage of anesthesia vary for a normal patient and a patient with a hot tooth?
a) Yes. B) No
5. Does the patient with hot tooth syndrome react the same way as the others?

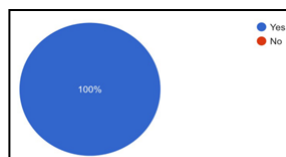
- a) Yes. B) no
6. When IANB fails the other methods that can be used are
a) Another IANB
b) Intra ligament injection
c) Intraosseous injections
d) Intra pulpal injection
7. Is any premedication required before delivering local anesthesia to a patient?
a) Yes. B) no
8. Does Tetrodotoxin resistance have a role in the efficacy of local anesthesia?
a) Yes b) No
9. Will premedication with fast-acting anti-inflammatory drugs help in the efficacy of local anesthesia?
a) Yes. B) No
10. What would you prefer for a hot tooth that would be effective?
a) Premedication with NSAIDs's then followed by normal IANB
b) 7 days prior to the treatment, intraosseous injection of methylprednisolone
c) Sublingual triazolam
d) Switch to a different composition of Local anesthesia.

Figure 1: Responses Obtained For Q1.



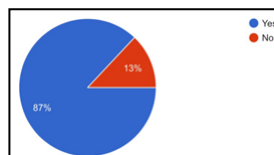
100 % of the respondents had knowledge about hot tooth.

Figure 2: Responses Obtained For Q2.



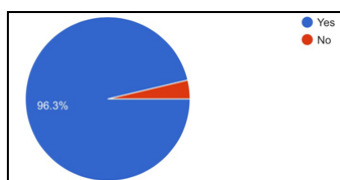
87% of the respondents have faced patients with a hot tooth on their dental chair.

Figure 3: Responses Obtained For Q3.



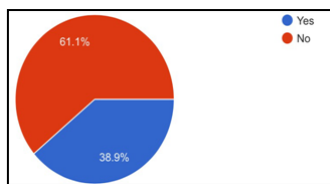
13% knew what was a hot tooth but never treated any such.

Figure 4: Responses Obtained For Q4.



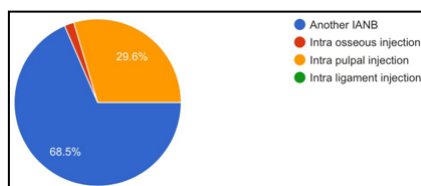
96.3% of the respondents strongly feel that the dosage of anaesthetics varies for a normal patient and a patient with a hot tooth.

Figure 5: Responses Obtained For Q5.



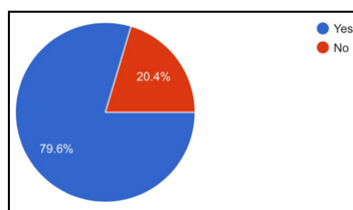
61.1% of them say that a patient with a hot tooth doesn't react the same way as another patient.

Figure 6: Responses Obtained For Q6.



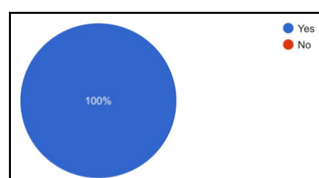
68.5% of the respondents said that if IANB fails another IANB will be given. 29.6% said that they give an intra pulpal injections and the rest preferred intra osseous injections.

Figure 7: Responses Obtained For Q7.



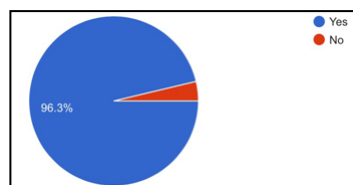
79.6% of them insist that premedication is required for patients before delivering Local anaesthesia. 18.5% of them would follow premedication with NSAID's followed by normal IANB.

Figure 8: Responses Obtained For Q8.



100% of them said that tetrodotoxin has a role to play in the efficacy of local anaesthesia

Figure 9: Responses Obtained For Q9.



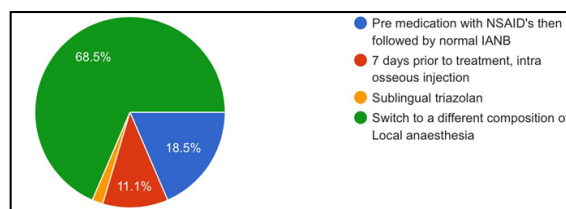
96.3% said that premedication with fast acting anti inflammatory drugs help in the efficacy of local anaesthesia

Results And Discussion

Hot tooth syndrome is a cornerstone in endodontics. From the survey conducted among general dental practitioners, there are several conclusions that can be obtained. The success of Inferior alveolar nerve block was defined as none or mild pain (VAS recordings) on endodontic access or initial instrumentation [23, 24].

It was found that among the respondents, 100 % of the respondents had knowledge about the hot tooth. 87% of the respondents have faced patients with a hot tooth on their dental chair. 13% knew what was a hot tooth but never treated any such. 96.3% of the respondents strongly feel that the dosage of anesthesia varies for a normal patient and a patient with a hot tooth. The majority of them, I.e, 61.1% of them say that a patient with a hot tooth doesn't react the same way as another patient. This is because the

Figure 10: Responses Obtained For Q 10.



11.1% said that 7 days prior to the treatment, intra osseous injection of methylprednisolone would be given and 1.7% would give Sublingual triazolam.

patient faces intense pain. 38.9% of them don't feel so. Anti-inflammatory treatments aren't that effective towards the pain. [25]

It was also seen that most patients require an alternative anaesthesia method. [26, 27] Most endodontic emergencies occur as a result of attempts to relieve symptoms of pulpitis. [28] Among the respondents, 68.5% of the respondents said that if IANB fails another IANB will be given. 29.6% said that they give an intra pulpal injections and the rest preferred intraosseous injections. 79.6% of them insist that premedication is required for patients before delivering Local anaesthesia. Articaine solutions had a probability of achieving anesthetic success superior to that of lidocaine. [28, 29] 100% of the respondents agreed that Tetrodotoxin resistance has a role in the efficacy of local anaesthesia [30]. and that pre-emptive oral NSAIDs might have a good effect and are safe in increasing the success rate of IANB [31]. The respondents who insisted on giving premedication felt that premedication with fast-acting anti-inflammatory drugs helps inefficacy of local anaesthesia. No response mild electrical stimuli indicates a diagnosis of necrotic tooth [32, 33].

It was also evident from the respondents that 68.5% of them would switch to a different composition of Local anaesthesia while 18.5% of them would follow premedication with NSAID s followed by normal IANB. 11.1% said that 7 days prior to the treatment, an intra osseous injection of methylprednisolone would be given and 1.7% would give Sublingual triazolam as premedication which relieves anxiety. A dosage of 600 to 800 mg of ibuprofen showed a significant effect in increasing the success rate of IANB. [30] The dentist administers a combination of the local anesthetic formulation. It must be appreciated that the systemic effects of these combinations follow the principles of summation.[34] Our institution is passionate about high quality evidence based research and has excelled in various fields [35-45].

Conclusion

Thus the survey revealed the knowledge, attitude, and practice of treatment of hot tooth syndrome among general dental practitioners. This study reveals that practices followed by the practitioners are appropriate and effective. To improve the quality of treatment provided can be improved by attending workshops or lectures. To gain knowledge and keep oneself updated would help in better handling of patients.

Acknowledgement

The study was supported by the university who provided insights and expertise that greatly assisted the study. We would like to thank the reviewers of the article for their insights and contribu-

tions.

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