



The Role of Anesthesia in Treating Patients' Teeth in Health Facilities

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Abstract:

The study aims to examine the importance of anesthesia in treating patients' teeth during mini-dental operations, what are the side effects resulting from the use of anesthesia in dental clinics and their operations, and the types of techniques recently used in dental anesthesia to treat patients in health facilities. A questionnaire was conducted via Google Drive, the questionnaire was distributed via the social media network (where 700 questionnaires were distributed) to mobile groups, and responses to 650 questionnaires were obtained via email.

Keywords: role, anesthesia, treating patients' teeth, health facilities

Introduction:

Anesthesia is the process of using medications that are primarily able to block the sensation of pain and some other sensations in the field of medicine (especially surgery and dentistry). It includes analgesics (which relieve or prevent pain), temporary paralysis of the body's muscles (muscle relaxation), memory loss, and loss of consciousness. A patient who is under the influence of anesthetic drugs is referred to as anesthetized. Forms of dental sedation are similar to general medical anesthesia except that the use of nitrous oxide is relatively uncommon in the field of dentistry in the United States ⁽¹⁾⁽²⁾⁽³⁾. Although anesthesiologists consistently work in the mouths of patients, they may not have been exposed to a comprehensive education of teeth, surrounding these issues, and intraoral prostheses. To more fully appreciate a patient's dentition, this article presents pertinent nomenclature and anatomy and discusses the present status of various vulnerable dentitions and the likelihood of dental trauma. A thorough preoperative assessment of the patient's dental status, including the recognition of vulnerable teeth, and soft tissues, and also cited anesthesia risk factors are of paramount importance in the prevention of perioperative dental damage. This article reviews the incidence, morbidity, pathophysiology, and predisposing risk factors associated with such an injury. For select scenarios, the value of an anesthesiologist performing a more extensive pre-operative evaluation is described. The importance of using clear discussion and detailed documentation to reduce postoperative distress. Parties involved in the patient's care are reviewed. Special considerations for the pediatric and adolescent patient populations are also discussed. Several recommendations for the prevention of perioperative dental damage and a plan for its management are presented. Exercising an effective risk reduction strategy for these unfortunate injuries can minimize expenses while maximizing aesthetic outcomes and patient satisfaction. Dental general anesthesia (DGA) is a very efficient treatment modality because it only takes a single appointment and requires little or no cooperation on the part of the patient. It is nevertheless considered only in the last resort, because general anesthesia may pose risks for the patient's overall health. General anesthesia in early childhood has been reported to affect the child's neurodevelopment, although contradictory findings have been reported ^(4,5). The American Academy of Pediatric Dentistry (AAPD) has stated indications for DGA in children and adolescents as follows: (a) patients who cannot cooperate due to a lack of psychological or emotional maturity and/or mental, physical, or medical disability, (b) patients for whom local anesthesia is ineffective because of acute infection, anatomical variations, or allergy, (c) patients who are extremely uncooperative, fearful, anxious, or uncommunicative, (d) patients who require significant surgical procedures or immediate, comprehensive oral/ dental care and (e) patients for whom the use of DGA may protect the developing psyche and/or reduce the medical risk ⁽⁶⁾. The AAPD and the Special Care Dentistry Association (SCDA) both emphasize that dentists should consider other techniques as alternatives to DGA and should use preventive care to find the best treatment modality and achieve good results in the long term ⁽⁶⁻⁸⁾. In Finland dental services are provided in both the public and the private sector, the entire population being entitled to Public Dental Service (PDS). Dental care for patients under 18 years of age is free of charge and nearly all children and adolescents receive PDS treatment. In Helsinki, DGA

is provided by the PDS for ASA (American Society of Anesthesiologists) grade I-II patients, whereas ASA grade III-IV patients are referred to university hospitals. Conscious sedation is widely used when treating patients with difficulties in dental care so that only those patients whose treatment would otherwise be very difficult are referred for outpatient DGA. At a consultation appointment preceding the treatment, a dentist specialized in DGA assesses, each patient individually in terms of the treatment options and needs, including proper instructions on oral self-care and dietary advice. Thus, DGA is regarded as a comprehensive process, with preventive care included as one part. In addition to the AAPD indications, the Helsinki PDS indications for the use of DGA with children and adolescents also recommend this approach for adolescents who are at risk of alienation from society due to dental problems and the need for extensive dental treatment and for adults with intellectual, physical, mental or medical disabilities that could be overcome this way. Most anesthetics come in two types: with or without epinephrine. The most common and effective technique for the lower teeth and jaw is inferior alveolar nerve anesthesia. An injection blocks sensation in the inferior alveolar nerve, which extends from the jaw joint down the back of the lower jaw and connects the lower teeth, lower lip, chin, and tongue. The superior alveolar nerves are not usually anesthetized directly because they are difficult to approach with a needle. For this reason, the upper jaw is usually anesthetized locally by inserting a needle under the oral mucosa surrounding the teeth. Anesthesia of the lower teeth. nerve block technique, additional techniques like technique, Intraosseous injection, technique was used for the first time in 1910 and includes injecting anesthesia into small channels made with a needle near the tip of the tooth root, and is used in surgery and treating dental pulp⁽⁹⁾. The technique of injecting periodontal ligaments is used to achieve anesthesia before treating the dental pulp. It is also considered an auxiliary technique when anesthetizing the inferior alveolar nerve. This technique involves injecting 0.2 ml of anesthetic into each tooth root and then spreading the solution to penetrate the bone⁽¹⁰⁾. Many dentists prefer the periodontal ligament injection technique because it does not numb the soft tissues, does not require a large amount of anesthesia, and can numb a single tooth⁽¹¹⁾. Intrapulp injection technique, This method involves placing the anesthetic directly on the tooth pulp using a small needle and applying high pressure, which results in discomfort. Dentists resort to this technique when all other methods fail to anesthetize the teeth. The dentist must warn his patient of the acute pain and unpleasant feeling. This method is commonly used in conjunction with endodontic treatment of lower molars to control pain without resorting to inferior alveolar nerve block but is not considered a first-line option⁽¹²⁾. Intrapapillary injection technique This technique is considered a complement to the local infiltration technique to make the patient feel comfortable. This technique is used if it is not possible to apply local infiltration in the palate or the lingual part of the jaw. The anesthetic is injected 2 mm above the papilla. Jet injections (needle-free injections), This type of injection relies on the principle of jet flow of the anesthetic by applying strong pressure sufficient to push the anesthetic through very small openings in the tissue and therefore does not require the presence of a needle⁽¹³⁾, the benefits:

The rapid absorption of anesthetic at the injection site. Ease of use. It does not generate any pain. Does not damage tissue. Recent studies have shown that the use of jet injection in dentistry is very limited despite its broad benefits. Other anesthetics, nitrous oxide (N₂O), eugenol, local anesthesia, general anesthesia, nebutamine, midazolam, sevoflurane gas, propofol, morphine, ketorolac, and other drugs used in general anesthesia such as Decadron, Ondansetron.

2-Material and Methods:

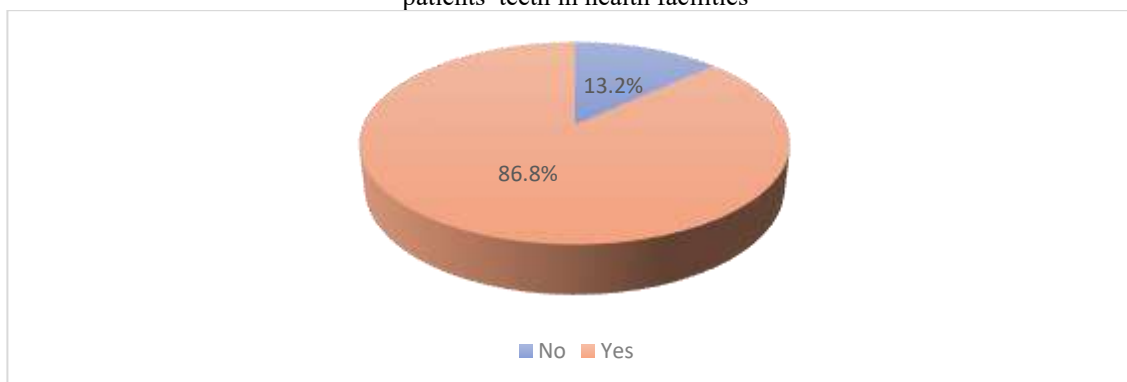
This study started in (the holy city of Mecca in Saudi Arabia), began writing the research and then recording the questionnaire in January 2023, and the study ended with data collection in July 2023. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (The role of anesthesia in treating patients' teeth in health facilities), this kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation⁽¹⁴⁾, And use the Excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages⁽¹⁵⁾. A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of twelve questions, six questions were closed, and six questions were opened. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere⁽¹⁶⁾

3- Results:

The participation rate for those who agreed in the research questionnaire was 97.4%, and for those who refused was 2.6%. While the ages of the participants were as follows: from 25 to 34 years old, at a rate of 57.9%, while from 35 years old - 44 years, at a rate of 13.2%. And from the age of 45-54 years, a rate of 26.3%, and a rate of 2.6% from the age of 55-60 years. Their gender was male, 48.7%, and female, 51.3%. Their nationalities are 100% Saudi. Their occupations were as follows: 41% students, 25.6% government employees, 10.3% private sector employees, 15.4% housewives, 2% unemployed persons, 5.7% self-employed. Their educational status was as follows: neither read nor write 0%, primary 2.51%, intermediate 0%, secondary 38.5%, university 38.5%, diploma 17.9%, master's 2.51%, doctorate 0%. As for their participation in answering the research questionnaire, it was as follows: The first question about anesthesia is giving the patient blood vessel medications or gas to put him in a coma to prepare him for the operation. Yes, 94.7%, no 5.3%. The second question is whether general anesthesia is preferred in the following cases: the patient's fear of the dentist, in children and adults, large operations in which local anesthesia is not sufficient, patients with mental disability, and patients

who prefer general anesthesia. Yes, 87.2%, and no 12.8%. The third question: General anesthesia is not preferred in the following cases? In case the patient is afraid of general anesthesia, what is the patient's fear of general anesthesia? Yes, 56.4%, and no 43.6%. The fourth question: What are the advantages of general anesthesia in dentistry? The answers were as follows: Psychological comfort, relief of pain, reducing fear and alleviating pain so that he does not feel pain and anxiety, the comfort of the doctor at work, alleviating stress and fear on the part of the patient, It is good. It helps the patient not feel pain, completes the doctor's work without the patient feeling pain, relieves pain, protects children and mentally disabled children from any problems that happen to them, does not feel fear or pain, speeds up the operation, and avoids mistakes. Reducing pain for the patient - The physician assistant works best after the patient has calmed down from the anesthesia So that the patient does not feel pain during the operation, relieves physical and psychological pain, delayed awakening, It works without any pressure or fear from the patient and keeps the doctor away from confusion, Insensitivity to pain, Insensitivity to pain, Yes, Oh It keeps you from feeling pain a The pain is gone, facilitating the doctor's work in operating with ease, reducing the movement of a patient who is afraid of dental surgery, such as dental implants response, the patient does not feel pain, and a person is not afraid of pain. The fifth question: What is the box technique in dentistry? I do not know ,I don't know, I don't know, it helps with implantation in people who suffer from the melting of the jaw, a technique that helps with implantation in patients who suffer from the melting of the jaw bones, I don't know, weakness in the jaw bones, I don't know, I don't know, using computer programs to manufacture teeth, design crowns and dental bridges, and special materials in making crowns, anesthesia, I don't know, anesthesia, no, I don't know, resonance is an implant-assisted technique for patients suffering from jaw bone melting. The sixth question: What is the treatment period for the box technique in dentistry? I do not know, I don't know, I don't know, maybe 4 months. You have to wait 4-6 months for bones to form so you can do the transplant. A short period, I don't know, I don't know, 4 to 6 months. The seventh question: Do dental implants require local anesthesia? Yes 84.2% and no 15.8%. The eighth question about general anesthesia aims to temporarily suppress awareness and sensation of pain? Yes 86.8% and no 13.2%. The ninth question is about what are the risks? General anesthesia in dentistry? The answers were as follows: There are no, it has very few risks. It is possible for blood bleeding, the patient not opening his mouth, seizures and an allergic reaction, nerve damage when using medications with high concentrations, and nothing. It could lead to a coma. I don't know. If the patient has other health problems, there are none. Increasing the dose is very dangerous Complications of anesthesia that come to patients with chronic diseases. If the patient suffers from one of the diseases, there may be a danger to him, nerve damage when using medications with high concentrations, seizures, Ineffective risks. He may not wake up if he is taking blood. I speak, I don't know. Complications, from my point of view, may be, if there are problems and risks of general anesthesia, such as a sore throat, due to breathing, because this will be an obstacle to general anesthesia, and if a tube is inserted, there is also a possibility of throat infections, my mother, Vomiting, nausea, bleeding and dizziness. The tenth question: Are there side effects of general anesthesia in dentistry? Yes 71.1% and no 28.9%. The eleventh question: What are the indications for general anesthesia for dentistry? The answers were: I don't know, I don't know, blood pressure and oxygen level, insensitivity to pain and sleep, blood pressure and oxygen level in the blood, pulse and heart rate during the procedure, dizziness, fainting, lack of feeling of pain, Achievement at work, few, I don't know, lack of feeling, Major operations are easier and more comfortable for patients. The patient goes into a coma, loses consciousness, spreads, there is no abscess, God knows best, natural medicine. General anesthesia makes major operations easier for patients. The last question is: What information is necessary to be able to use general anesthesia for dental treatment? The answers were as follows: I don't know, allergies, diseases that the patient has We must wait 4-6 months for the bones to form so that we can perform the transplant. If there are few bones sufficient to perform the transplant, this is done in the same session. However, if there are not enough bones, we wait until the bones are formed. Planting can be done after approximately two months. (figure No.1)

Figure No.1: Opinions and attitudes of participants in a research questionnaire about the role of anesthesia in treating patients' teeth in health facilities



4-Discussion:

Through the study, Anesthesia plays a major role in preventing patients from feeling tooth pain during treatment.

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