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Hypnosis as a Valuable Tool for Surgical Procedures in the Oral and Maxillofacial Area

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Hypnosis is a valuable tool in the management of patients who undergo surgical procedures in the maxillofacial complex, particularly in reducing and eliminating pain during surgery and aiding patients who have dental fear and are allergic to anesthesia. This case report demonstrates the efficacy of hypnosis in mitigating anxiety, bleeding, and pain during dental surgery without anesthesia during implant placement of tooth 14, the upper left first molar.

Keywords: anesthesia, anxiety, hypnosis, pain

Hypnosis techniques can alter one's state of consciousness for clinical use in treating asthma, chronic pain, and psychosomatic and psychoneurotic conditions (Abdeshahi, Hashemipour, Mesgarzadeh, Payam, & Monfared, 2013). Historically, the use of hypnosis in medicine has been highlighted by the experiences of Franz Anton Mesmer (1734–1815), an Austrian physician who described specific states under the heading of "animal magnetism." James Esdaile, a Scottish surgeon, reported many surgical operations under hypnotic sleep in India in the 19th century, a period during which there were no anesthetic agents other than alcohol and

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opium. Also, at this time, many references that were related to the early use of hypnotic anesthesia alone appeared. At the beginning of the 20th century, successful teeth extractions were reported by Bramwell in 1921 and by Hawkes in 1929. In 1941, Wells reported two successful cases in dentistry in relieving pain after extraction, and in 1981, Ross described the use of hypnosis for pain relief under surgical conditions (Holdevici, 2014).

Many dentists may not realize that hypnosis is a state of consciousness that is artificially narrowed, usually resembling sleep but differing physiologically and characterized by the spontaneous appearance of various phenomena, such as changes in attention and memory, increased suggestibility, and motor and sensory alterations. During hypnosis, the mind appears to become dissociated, but concentration can be hyperfocused on a single point.

In dentistry, the use of this dissociation and concentration during hypnosis can be applied to reduce anxiety and fear, treat bruxism, provide salivary control, and lower anesthetic doses with fewer side effects (Holden, 2012). Specifically, in surgery, it controls anxiety, pain, bleeding, and postoperative recovery (Holdevici, Crăciun, & Crăciun, 2013; Price & Barrell, 2000). One of the chief mechanisms of hypnosis is the modulation of neural function and biochemistry, resulting in changes in body perception, pain relief, and decreases in anxiety and depression (Holdevici, 2014). We look at hypnosis as a process of autosuggestion, because it does not advance without permission, interaction, and trust.

Hypnosis can be usefully applied as an alternative to analgesic drugs because the side effects of such medications can be problematic for certain patients. Moreover, dental visits are often experienced in association with anxiety and pain. Thus, hypnosis can decrease patient fear in the dental chair and increase the effects of anesthesia during surgical procedures (Abdeshahi et al., 2013; Holden, 2012).

Although hypnosis techniques have been described in dental surgery since the 19th century, a few reports on pain relief in dental surgeries exist. This brief case report demonstrates the success of hypnosis in inducing local anesthesia, reducing bleeding, pain, and anxiety during dental implant surgery, and ultimately effecting a better postoperative outcome.

Case Report

A 42-year-old female patient without any serious pathologies, such as diabetes, hypertension, and cardiac disease, was scheduled for implant surgery of element 14 (upper left first molar; Figure 1).

She was not taking any medications and had a history of favorable surgical procedures. Before the surgery, she underwent an x-ray exam and CT scan, which showed little bone support in the implant area (Figures 2 and 3).

The patient received a thorough explanation about the procedure, the advantages and disadvantages of hypnosis were explained, and a signed consent form that authorized the use of hypnotic anesthesia during surgery was obtained. An hypnosis session was held to control anxiety, fear, and pain during and after the procedure. The method that was used in



FIGURE 1 Intraoral photograph before surgery.



FIGURE 2 X-ray exam before surgery.

this case report was the "hands sticking together" technique. Readers are invited to view the videos at these URLs: https://youtu.be/7sC2eUBdowY and https://youtu.be/C3ujpYQsLYI.

Hypnosis was induced prior to the surgical procedure. In this technique, the patient was asked to entwine her fingers and then stretch her arms, with the palms of her hands facing outward. In this position, with enough assuredness and a quiet, safe, and affirmative tone, the hypnotist suggested that a powerful glue was poured onto the patient's fingers, attaching them together. Then, the hypnotist prompted her to try and drop her hands and suggested that the harder she tried, the more attached her fingers would become (Kihlstrom, Glisky, & McGovern, 2011).

The deepening of the hypnotic trance occurred for 5 min, with commands for a pleasant visual image, wellness tips, peace, and tranquility. Then, a suggestion that involved the hypnotic anesthesia and hemostasis was made (Figure 4). The hypnotic



FIGURE 3 CT scan before surgery.

anesthesia comprised the anesthetic sleeve technique, in which the finger is anesthetized and the feeling of anesthesia is transferred to the area of the tooth that is being treated. To this end, the anesthetized finger made contact with the area of the tooth and adjacent soft tissue, resulting in local anesthesia. Suggestions of deep anesthesia were followed by tingling commands in the tooth region, analgesia, and distraction with activities to divert attention away from the pain (Goldstein, 2011). At this point, we began to make an incision on the mucosa, drill the bone with a sequence of drills, and place the implant (Neodent, Drive TI 4.3×8 mm; Figures 5, 6 and 7).



FIGURE 4 Hypnotized patient.



FIGURE 5 Placement of the implant without anesthesia.

Wellness suggestions were made during the postoperative recovery. The earlier prompts, such as the hand anesthesia and muscle relaxation, were eliminated when the patient came out of her trance. Immediately, after the surgical procedure and 1 week later, we used the visual analog scale (VAS) to measure the patient's pain level and the hospital anxiety and depression scale (HADS) to measure anxiety and depression. The patient had low scores for anxiety and depression and a pain level of zero in both assessments (Frampton & Hughes-Webb, 2011; Mackenzie et al., 2014; Figure 8).



FIGURE 6 Intraoral photo after surgery.



FIGURE 7 X-ray exam after surgery.

Discussion

After the hypnosis procedure, the patient reported that the hypnotic trance was associated with a sense of wellness and relaxation. She remained aware of sounds and environmental activity and observed her own answers for the suggestions that were proposed with curiosity and expectation. This phenomenon elicited a heightened focus on the voice of the hypnotist, which increased the importance of the spoken content.

Notably, the patient maintained her critical attitude and was not subdued by the hypnotist in any way. She allowed herself to follow the guidelines, because they were comfortable and to her liking (Goldstein, 2011; Montgomery, DuHamel, & Redd, 2000;

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FIGURE 8 Patient feeling well after surgery.

Price & Barrell, 2000). The patient appeared to be highly responsive to suggestions and showed signs that the technique worked, such as body posture, facial expressions, and small ocular movements (Montgomery et al., 2000).

In dentistry, hypnosis has been proposed as a treatment to relieve anxiety, pain, and dental phobia (Potter, Coulthard, Brown, & Walsh, 2013). Because the patient accepted the technique, the use of hypnosis was incorporated into the treatment during the surgical procedure. Again, it is notable that no reports of pain, anxiety, or depression developed during or after the surgery, per the VAS and HADS. Thus, this case demonstrates the value of using hypnosis in dental treatment for controlling pain and anxiety during and after an operation.

There are many studies about the clinical effects of hypnosis, which include decreasing pain, anxiety, and analgesic use. This case report is consistent with these findings, demonstrating the efficacy of hypnosis (Abdeshahi et al., 2013; Holdevici, 2014; Montgomery et al., 2000; Potter et al., 2013). Among hypnosis techniques, classic hypnosis is more authoritarian and Ericksonian hypnosis is more permissive and indirect. Each method has benefits and limitations. In our case report, we adopted the rapid contemporary hypnosis technique, based on its dynamic characteristics, which can be associated with direct or indirect commands when necessary (Holdevici, 2014;

Montgomery et al., 2000). With regard to the variables that influence the success of the technique, a professional must have adequate training and scientific knowledge regarding how to structure the suggestions, evaluate the susceptibility and potential phobias, and instill confidence in the patient to achieve the best results (Holden, 2012; Potter et al., 2013).

Conclusion

Based on this case study, a hypnotic approach was effective as a therapeutic resource in dental surgical procedures for suggestible patients in reducing anxiety, bleeding, and pain; minimizing the use of anesthetics; and effecting the best postoperative outcome. More studies are needed to increase our understanding of the implementation of hypnosis and create a clinical protocol of care that is based on clinical evidence (Abdeshahi et al., 2013).

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