

Placebo analgesia in dentistry



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Placebo is a pretend treatment, such as a sham procedure or inactive preparation (flour or sugar pills, for example). The placebo effect is considered as the outcome differences between a group of patients that received placebo treatment and a group that received no treatment. In dentistry, the most significant placebo effects are probably related to postoperative pain, as well as treatment-related pain and inconvenience. Placebo analgesic response is defined as the pain relief that results from the expectation of effectiveness of the therapeutic intervention. It has been shown in various studies that the anticipation for pain relief from treatment can increase the analgesic effect.

Noteworthy placebo analgesic effect has been demonstrated in postsurgical pain, low back pain, inflammatory bowel syndrome related pain, neuropathic pain, and various types of experimental pain, as well as in dental pain.^{1,2} It is difficult to predict the extent of the placebo response because it is affected by various factors, including expectations, the type of placebo provided, individual differences, conditioning, and suggestibility. The placebo effect can be reversed by naloxone, and the underlying mechanisms of the phenomenon involve the endocannabinoid and opioid systems as well as the descending pain modulation systems.³

The placebo effect on pain is substantial. In a study of third molar extraction related pain, the effect was found to be similar to the effect of 6 mg of morphine.⁴ It is well established that patients who believe in a provided treatment are more likely to have greater benefit from that treatment.

It is important to note that placebo cannot and should not be considered as no treatment. The treat-

ment-provided outcome, especially for pain, is a hybrid of the intended treatment and the placebo effect. Occasionally, the placebo effect is even more significant than the "active" treatment.

Placebo effect is not always favorable. Patients in placebo groups can report similar side effects to patients in the treatment group if they are aware of the treatment's possible effects. Increase in pain or other negative effects induced by placebo treatment, conditioning, or negative expectations is termed nocebo. As can be seen in patients suffering from dental phobia, nocebo may have longer lasting and sometimes greater effects than placebo.

In the dental practice, placebo and nocebo effects are seen on a daily basis. Many of the fears from dentistry can be considered nocebo effects, and dentists, sometimes unintentionally, use conditioning and suggestibility as part of their treatment.

Better understanding of the placebo effect and, more importantly, development of evidence-based protocols employing placebo can augment the effect of existing treatments and improve the care that dentists provide.

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