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MINI REVIEW

Hypnosis and Anesthesia

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Abstract
Hypnosis is the acceptance of a suggestion. Perception, memory, and voluntary movements can be changed with hypnotherapy. Rather than being an alternative to general or regional anesthesia in the field of anesthesia, hypnosis should be used as a complementary method that is integrated with these methods, increases the patient's compliance and comfort, and accelerates the healing process. Hypnosis is an important application in the reduction and control of both acute and chronic pain. In this text, we analyze the subject of hypnoanesthesia and discuss studies on hypnoanesthesia.
Keywords: Hypnosis, Pain, Anesthesia

INTRODUCTION

Hypnosis

Hypnosis is an abstract concept, which cannot be shown directly. It can be explained with the features it has. For these reasons, it is difficult to make a full description of hypnosis. According to the definition of the American hypnosis association, hypnosis is the bypassing of the critical factor of consciousness and placing an acceptable thought to the subconsciousness [1,2]. Hypnosis consists of the trance state and suggestion components. The trance state is a state in which the response to other stimuli is reduced, but the person is awake. The hypnotic trance state is a mental state in which both state and suggestion acceptability are present [1]. The process of creating a trance state in hypnosis is called hypnotic induction [2].

History

The Frenchman Anton Mesmer (1734-1815) was the first to use hypnosis medically. He believed there was a magnetic fluid in living things and thought that it had a healing effect. Marquis de Puysegur (1751-1825) called this situation somnambulism [3]. James Braid (1795-1860) is regarded as the descriptor of modern hypnosis and emphasized that a person's suggestibility is important. He used the word hypnosis, which comes from the Greek term for sleep [4]. James Esdaile (1805-1859) used hypnoanesthesia in India. He performed and published approximately 300 operations with only hypnosis [5]. John Elliotson performed 76 surgical cases using only hypnosis [6]. In 1955, the British Medical Association stated that hypnosis has a place to create anesthesia and analgesia in surgical and dental operations and that it can be used for analgesia in normal birth without affecting the course of the delivery [7]. In Turkey, for the first time in 1960, Doctor Recep Doksat announced hypnosis as a scientific study with his thesis on "Hypnotism" [2].

Studies on hypnoanesthesia

Many studies were done on the physiology of hypnosis. There are also many studies examining the effects of hypnosis on anesthesia, surgery, pain, and anxiety. However, there are still many mysteries waiting to be revealed in hypnosis.

Clinically, hypnosis has been used in anesthesia in a variety of settings. It has been studied as a complementary technique rather than an alternative

to general anesthesia. Scientific research methods limit the progression of hypnosis from experimental use to routine clinical practice. For example, it is challenging to find measurable physiological variables that define the hypnotic state. It is challenging to reliably and reproducibly measure a hypnotic trance, and a double-blind clinical trial involving hypnosis is impossible. However, recently, the interest in hypnosis has increased again due to conscious sedation seen more clearly in anesthesia.

Studies using positron emission tomography (PET) and functional magnetic resonance imaging (MRI) methods and potential studies evoked by painful stimuli have helped to better understand neural pain pathways.

According to the data obtained to date, large brain areas, including cortical and subcortical regions, are related to pain perception. Anterior cingulate cortex, insula, frontal cortex, 1st somatosensory cortex (S1), 2nd somatosensory cortex (S2), and amygdala are among the structures in the pain matrix. If the location and duration of pain are detected, high metabolic activity is observed in the lateral thalamus and at the S1 and S2 regions of the hemispheres.

On the other hand, in cases where emotional components of pain are emphasized, such as hypnosis, pain stimulation is mainly processed in the medial regions of the thalamus and reflected in the anterior cingulate gyrus [8].

Rainville and Faymonville tried to show the physiological correlations of hypnosis with PET. They stated that when there are changes in affective pain perception under hypnosis, there are metabolic changes in the anterior cingulate cortex, and there is no change under the same conditions in other cortex regions involved in pain perception. Functional MRI results were similar in healthy volunteers exposed to thermal pain with and without hypnosis [9].

In an experiment with 14 people, Li et al. revealed pain by stimulating the supraorbital nerve. This experiment showed that the pain threshold could be increased significantly when the hypnotic subjects were continuously suggested [10].

In a study conducted on preoperative anxiety, Ashton et al. showed that patients in the hypnosis group were more relaxed in the preoperative period than the control cases and displayed the therapeutic success of relaxation with postoperative self-hypnosis (autohypnosis) [11].

In a study conducted by Saadat et al. to reduce the preoperative anxiety of patients aged 18-65, compared with basal anxiety, a 56% decrease in the anxiety level of the hypnosis group at the entrance to the operating room was observed. On the other hand, a 47% increase in the anxiety of the control group was reported. It has been shown that patients in the hypnosis group were significantly less anxious after the intervention than those in the control group. As a result, a preoperative hypnosis session effectively reduces preoperative anxiety and fear [12].

Studies are showing the positive aspects of hypnosis in children as well. In a study, hypnosis was compared with a group given preoperative midazolam, and lower preoperative anxiety scores and postoperative behavioral disorders were observed in children in the hypnosis group [13].

In some studies, patients were given a 10-minute hypnotic induction session by a separate physician before sedation and local anesthesia for neck dissections and thyroid surgery. While patients in the hypnosis group had significantly lower pain scores, they needed less intraoperative opioid analgesics and sedatives. Postoperative nausea was also observed at a lower rate than the control group[14].

In another study of 171 people who underwent cataract surgery, the patients were divided into hypnosis (n=102) and a control group (n=69). The intraoperative drug use rate was significantly higher in the control group [15].

Sefiani et al. stated that hypnosis alone may be insufficient as an anesthetic. They reported that in the laparoscopic cholecystectomy and hernia repair operation series combined with local anesthesia, hypnosis, and sedation, 13 out of 35 cholecystectomy and 1 out of 15 hernia repairs required general anesthesia due to the discomfort of the patients [16].

CONCLUSION

Hypnosis is a safe practice that can be used in many areas and has no side effects. Hypnosis can be used safely to relieve anxiety before surgery, prepare the patient for the operation, postoperative analgesia, and discharge patients quickly. Case selection and patient compliance must be optimum to use hypnosis as an anesthetic method. We think that hypnosis should be used more widely to increase the psychological preparation and comfort of the patients who will undergo an operation and accelerate the recovery processes.

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