

MEETING ABSTRACT

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Attention guiding and hypnosis for acute pain management without medication

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Background

Acute and chronic pain is a burden to patients. To keep the medication with analgesic drugs as low as possible, additional non-pharmacological interventions prove to be useful. In chronic pain, long term hypnotic therapy is indicated.

The targeted distraction, which needs no special setting, is defined as putting a non-specific sense stimulus near or in deliberately chosen distance from the site of pain. It's more a kind of "confusion away from symptoms". The hypnotic trance, however, is led by the patient imagined focusing, escorted by a specialist. A scheduled therapy session is arranged with the patient, which takes place under special conditions. It includes an induction, by means of which the patient is placed in an altered state of consciousness. After further deepening the trance, the perception changes with help of suggestions. At best the patient is devoid of symptoms. In means of chronic pain the patient experiences for the first time that he is no longer helpless.

Material and methods

A literature search via Pubmed, Medline and Embase and data extraction was performed. It aims to identify possible mechanism how hypnosis reduces pain.

Results

Although the results of research are still contradictory, two assumptions seem to be established: Hilgard's dissociation [5,6] and the associated change in the Default Network (DMN) [1-3,7-9]. Hilgard ER et al. have postulated the fact, that the forwarding of nocispecific information is inhibited via the thalamus. Because the somatosensory cortex and

the authorities responsible for pain processing areas of the brain remain fully active, it can be assumed, that communication between these parts is dissociated during trance - this means diminished responsiveness to pain stimuli and movement requests, and a belief that "this pain is not important".

The default network usually relates to the processing of I-related information. In precuneus, which is also responsible for introspective processes [1,9], an increased activity occurs in trances with paralysis-suggestions. This is also the case with specific suggestions for pain relief. Interestingly, there is no reaction with passive empty trance. This is right in line with Hildegard's concept of dissociation. Also some changes in the anterior cingulate Cortex (ACC) and in the orbitofrontal cortex take place.

In addition to these results from fMRT- and PECT-investigations also changes in the EEG during the trance are found. Unfortunately, the results do not always match, which can be explained by the great number of different settings.

Conclusions

It is scientifically demonstrated, that both the attention distraction as well as the hypnotic trance represent two effective mechanisms in pain management.

Competing interests

The authors declare that they have no competing interests.

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References

1. Cavanaugh AE, Trimble MR: **The Precuneus: a review of its functional anatomy and behavioral correlates.** *Brain* 2006, **129**:564-583.

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2. Cojan Y, Waber L, Schwartz S, Rossier L, Forster A, Vuilleumier P: **The brain under self-control: modulation of inhibitory and monitoring cortical networks during hypnotic paralysis.** *Neuron* 2009, **62**:862-875.
3. Deely Q, *et al*: **Modulating the Default Mode Network Using Hypnosis.** *International Journal of Clinical and Experimental Hypnosis* 2012, **60**(2):206-228.
4. Hilgard ER: **Toward a neo-dissociation theory: multiple cognitive controls in human functioning.** *Perspect Biol Med* 1974, **17**:301-316.
5. Hilgard ER: **Divided consciousness in hypnosis: The implications of the hidden observer.** In *Hypnosis: Developments in research and new perspectives*. New York: Aldine;Fromm E Shor RE 1979:45-80.
6. Hilgard ER: **Eine Neo-Dissoziationstherorie des geteilten Bewußtseins.** *Hypnose und Kognition* 1989, **6**(2):3-20.
7. Northoff G, Duncan NW, Hayes DJ: **The brain and its resting-state activity: Experimental and methodological implications.** *Progress in Neurology* 2010, **92**:593-600.
8. Qin P, Northoff G: **How is our self related to midline regions and default mode network.** *NeuroImage* 2011, **57**:1221-1233.
9. Rosazza M, Minati L: **Resting-state brain networks: literature review and clinical applications.** *Neurological Sciences* 2011, **32**:773-785.

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