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Movement disorders

Hypnosis and movement disorders: State of the art and perspectives



Hypnose et mouvements anormaux : état des connaissances et perspectives



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INFO ARTICLE

Article history:
Received 12 February 2016
Received in revised form
1st May 2016
Accepted 11 July 2016
Available online 5 August 2016

Keywords:
Hypnosis
Tremor
Tics
Mind-body medicine
Complementary and alternative
medicine

ABSTRACT

Introduction. – Hypnosis might represent an interesting complementary therapeutic approach to movement disorders, as it takes into account not only symptoms, but also well-being, and empowers patients to take a more active role in their treatment.

Methods. – Our review of the literature on the use of hypnosis to treat movement disorders was done by systematically searching the PubMed database for reports published between 1984 and November 2015. The following variables were extracted from each selected paper: study design; sample size; type of movement disorder; hypnotic procedure; treatment duration; and efficacy.

Results. – Thirteen papers were selected for detailed analysis. Most concerned tremor in Parkinson's disease and tics in Gilles de la Tourette syndrome. Although promising, the data were insufficient to allow conclusions to be drawn on the efficacy of hypnosis in movement disorders or to recommend its use in this setting.

Conclusion. – Well-designed studies taking into account some specific methodological challenges are needed to determine the possible therapeutic utility of hypnosis in movement disorders. In addition to the potential benefits for such patients, hypnosis might also be useful for studying the neuroanatomical and functional underpinnings of normal and abnormal movements.

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1. Introduction

It was recently estimated that about one-third of the general population have used complementary and alternative medicine (CAM), usually as an adjunct to conventional care [1]. Some 30–80% of patients with chronic neurological disorders, such as multiple sclerosis and Parkinson's disease, are reported to use CAM [2–5]. CAM consists of two main approaches, one based on natural products and the other on mind-body medicine. Hypnosis is a form of the latter. Two important aspects of hypnosis may perhaps make it an interesting complementary treatment for patients with chronic neurological diseases, including movement disorders: first, it takes individual wellness into account, and not only symptoms; and second, it empowers patients to take a more active role in their treatment.

Although there are no epidemiological data on the use of hypnosis and, in any case, patients tend not to disclose their use of CAM to their physicians [6-8], a growing interest in hypnosis for treating movement disorders has been noted. Conventional treatments of movement disorders consist mainly of drugs and neurosurgery in combination with rehabilitation (such as physiotherapy, speech therapy, occupational therapy) and psychosocial support. These treatments expose patients to the risk of adverse effects and do not always live up to expectations [9]. Patients frequently seek relief through hypnosis (and other CAM therapies) and may even ask their neurologist about such therapy [10]. The main reasons why patients opt for hypnosis and other forms of CAM include the possibility of taking a more active role in their treatment, the low risk of adverse effects and some degree of dissatisfaction with conventional treatments [10-12].

Neurologists must therefore be in a position to discuss this alternative treatment with their patients to help them make well-founded decisions. Thus, the basic principles and clinical practice of hypnotherapy are briefly described in this systematic review of the literature on the use of hypnosis to treat movement disorders.

2. What is hypnosis?

2.1. Definition

Hypnosis is "a state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion" [13]. Contrary to relaxation, hypnosis involves active participation by the patient, and one approach requires patients to mobilize their own resources to get better. The way people relate to themselves, to others and the world around them is modified during hypnosis. Attention is strongly focused with a more or less profound suspension of peripheral awareness [14]. When used to treat movement disorders, hypnosis may employ visual, olfactory, sensory, gustatory and/or auditory imagery, along with relaxation, to attenuate or prevent an abnormal movement. Hypnosis can also help to improve depression [15], anxiety [16], sleep disorders [17] and pain

[18,19], all of which frequently accompany movement disorders.

Neuroimaging studies show that the hypnotic state is associated with modulation of various cortical areas [12,20], including the activation of sensory and motor cortical areas during perception and motor actions, but without external inputs or outputs [20]. The control of movement under hypnosis might be driven by internal representations generated through suggestion and mental imagery, and is very likely mediated by modulation of precuneus activity and reconfiguration of the executive control system [21]. Neuroimaging scans have shown increased activity in the left-sided occipital, parietal, precentral, premotor and ventrolateral prefrontal cortices, and in the right-sided occipital and anterior cingulate cortices, with decreased activity in the precuneus, bilateral temporal, medial prefrontal and right premotor cortices [20]. Hypnosis most likely influences the activity of the default-mode network, which is involved in self-related processes. However, available studies have yielded inconsistent findings [12,22-25]. Nevertheless, on electroencephalography (EEG) recordings, alpha wave frequency corresponds to relaxed wakefulness [26,27]. Thus, the mind can influence the body to balance the self-regulatory systems that control blood circulation, breathing and heart rate [28].

2.2. Hypnosis sessions

Depending on the phase of the hypnosis session, patients may become as if "absent from the here and now", absorbed in their own imagination, or totally aware of their sensations (Fig. 1). The main phases of hypnosis are induction and therapeutic suggestion. Induction is the process used to establish the conditions required for hypnosis to occur, making the patient more prone to therapeutic suggestion. Various techniques are used during both the induction and suggestion phases, including relaxation, sensory focalization, movements, controlled breathing and pleasant imagery (see video 1). Self-hypnosis is a key part of the therapeutic phase, and needs to be used repeatedly in daily life to counteract symptoms and achieve sustained relief [29].

3. Method

In conducting the present systematic review of published studies wherein hypnosis was used to treat movement disorders, the PubMed database of reports from 1984 to November 2015 was searched, using the following terms: "hypnosis and movement disorders"; "hypnosis and Parkinson"; "hypnosis and parkinsonism"; "hypnosis and athetosis"; "hypnosis and chorea"; "hypnosis and ballism"; "hypnosis and dyskinesia"; "hypnosis and dystonia"; "hypnosis and tremor". "hypnosis and stereotypies"; "hypnosis and tics"; "hypnosis and Tourette"; and "hypnosis and tremor". The reference lists of papers thus retrieved were scanned for relevant articles. Inclusion criteria were:

- randomized or quasi-randomized clinical trials;
- case reports;

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