

Case Report

Using Hypnotic Techniques and Guided Imagery in Treatment of a Highly Hypnosible Woman with Slowly Progressing Chronic Organic Brain Disorder: A Case Study

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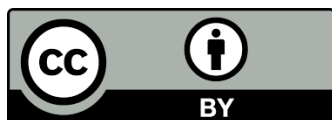
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Abstract

A therapeutic intervention combines guided imagery and hypnotic techniques (including self-hypnosis), direct and indirect suggestions, medical treatments, and highly improving patient condition. A variety of hypnotic intervention techniques were introduced to treat a highly hypnotizable patient suffering from an advanced organic brain disorder due to an autoimmune disease and resistant to traditional medicine, showing no improvement despite being highly motivated and cooperating with conventional measures. Progress in the Patient's condition and symptoms has been achieved during these hypnotic interventions: increased appetite and weight gain with a decrease in symptoms of gastroparesis, decreased



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limb spasticity while walking, improved speech and pronunciation, improved muscular power, improved balance and posture, pain diminution and improved mood.

Keywords

Hypnosis; autoimmune; treatment

1. Introduction

Hypnosis is the oldest psychotherapy and is one of the most popularly practiced methods for pain control and other stress-related chronic disorders. As summarized by De Benedittis: "Though having witnessed variations over centuries, the current interest in hypnosis has become stronger; hypnosis has emerged as both a useful topic for scientific research and an effective technique in clinical applications and therapeutic interventions" [1]. See Appendix A - Hypnosis Terminology for more details on the technique. This case study demonstrates the innovative application of hypnotic procedural methods in clinical practice. It shows how hypnotic techniques can help reduce symptoms in cases where traditional treatment struggles to improve patient wellbeing by studying the improvement in the condition of a patient with an advanced organic brain disorder due to an autoimmune disease.

2. Case History

Patient is a 56 y/o female, married mother of two; born in Moscow, Russia., She emigrated to Israel aged 26, an accountant by profession and a musician by education. The Patient used to spend extended periods in the forest areas in Russia. Before her illness, she exercised thrice a week in the gym.

Eleven years ago, she was diagnosed with a benign breast tumor, which was removed by lumpectomy. Yearly check-ups at a Breast Imaging Center followed; the attending physician [N.L.] at this center noticed the patient was gradually deteriorating up to necessitating walking aids.

During guided Q/A, patient conveyed to N.L. that she was suffering from demyelinating disease (MS). The differential diagnosis allowed for a PANDAS-like condition, resembling Pediatric Autoimmune Neuropsychiatric Disorder associated with streptococcal infection - an incurable advanced neurological disease, responsive to merely palliative treatment and nursing care. Still, Patient was highly motivated to continue functioning and worked half-time despite her all-incapacitating disability.

2.1 Course of Disease

In 2009, while in intact health, the patient suffered an episode of pharyngitis, which was treated with an antibiotic. A year later, she developed polyarthritis, In 2011, she started experiencing true vertigo, accompanied by nausea and general weakness. Symptoms quickly escalated to difficulty standing; though symptomatic treatment alleviated the disease, the patient noticed an unstable gait and felt she was swaying to her right and backward.

Half a year later, "hypersensitivity in the right cheek and right leg distortion" were noticed. Both head and cervical spine MRI and EMG tests taken at that time were interpreted to be within normal limits.

The patient's neurological examination at that time showed: cranial nerves within normal limits, broad-based gait, drift of right hand and foot in Barré test, flaccid muscle tone on the right limbs, dysdiadochokinesis alongside heel-to-knee and finger-to-nose dysmetria, no pyramidal signs were elicited. Fluctuating hemihypaesthesia was noticed.

Between 2011 and 2022, she deteriorated and was hospitalized a few times. Her dysphagia worsened until Percutaneous endoscopic gastrostomy (PEG) was inserted. At this stage, the patient received 30 mg BACLOSAL, 50 mg DANTRIUM (muscle relaxants), 50 mg Lansoprazole (reflux oesophagitis and acid-related disorders of the upper gastrointestinal tract), and Medicinal Cannabis as well as Clonazepam before bedtime and medication for alleviation of bladder spasticity.

These medications yielded no improvement, and exacerbations occurred. Patient was referred to psychiatric evaluation to rule out major depression. It was ruled out [2], and a rehabilitation trial began after that. Rehabilitation included physiotherapy and hydrotherapy, as well as physical exercises. Rehabilitation was discontinued after 9 months as the patient showed no improvement. At that time, the patient required the use of a wheelchair and 24-hour-a-day general supervision; she was acknowledged as suffering from all-decapacitating disability and complete loss of work capacity.

One month before our intervention, she suffered from severe motor disabilities using a wheelchair, severe gastrointestinal problems with PEG, incontinence, severe muscular pain, vertigo, severe weight loss and severe difficulties with verbal communication. Was administrated Clonex (0.5 mg), Dantrium (50 mg), Baclosal (30 mg) and Cannabis (5 drops 3 times a day), without benefits.

2.2 Therapeutic Intervention

Due to ongoing worsening of patient's condition along with continuing complaints regarding pain, as well as in view of existing anxiety and dysphoria while major depression had been ruled out, attending physician (N.L.) advised a trial of hypnosis as therapeutic intervention, consulting with hypnosis specialist (N.D.) who helped to consider use of hypnotic treatment [3, 4].

Attending physician clarified for patient details regarding the use of medical hypnosis and also tested patient's hypnotizability using parts of the Stanford hypnotizability test [4]: eye closing (when patient is instructed to close their eyes), magnetic hands (when patient is suggested to have magnetic palms, and the speed of the hand approaching each other is considered) and eye-upward-rolling (the Patient looks at the examiners finger moving upwards, and the amount of white in the patient's eyes is considered). These tests showed the patient to be especially highly hypnotizable [5].

In view of that data as well as of existing literature which describes the positive impact of integration of hypnotic treatment for patients with autoimmune disorders, especially highly hypnotizable individuals, a joint decision was taken by medical staff to attempt to deal with the expressions of the illness and not with mere symptoms by using hypnotic treatment [6-8].

All hypnotic and theoretic intervention conducted by Attending physician N.L.

2.2.1 First Meeting

For the initial phase, the patient was ushered into a hypnotic trance and was "anchored" to the entrance to and exit from the trance, aided by the construction of two buttons - green and yellow - virtual remote control, via guided imagination [9], with virtual click on green button anchoring entrance to hypnotic state and virtual click on yellow button anchoring exit from the hypnotic state. : The patient successfully drilled protocols of entering and exiting the trance as self-hypnosis training to enhance the hypnotic state, and a virtual safe place was constructed. On the count of 1 to 10, the patient successfully entered and established herself in the safe place and later drilled entering and exiting the safe zone using the virtual remote control twice, accomplishing all that remarkably well.

2.2.2 Second Meeting

Patient entered and then exited a hypnotic state on her own. Following exit from the trance, the patient was given information regarding various aspects of her hypnotic state. Being in a waking state patient was advised that her disease involves autoimmune demyelinating damage [3]. She received information regarding Myelin and its role in the central and peripheral nervous system. The patient was given an image of peripheral nerves appearing as cables that transmit electrical signals from muscles and organs to the center, and vice versa. Myelin was visually represented as plastic encasing the cables, enabling short circuit free transmission of swift and precise signals. Malfunction and/or deficiency of encasing plastic disrupts signal reception, with route short circuits preventing muscles and organs from providing optimal response.

Immune cells were visually represented as highly intelligent cells that generally guard the body. The auto immune disorder has those cells receive false orders which cause them to attack standard body parts such as myelin.

Following the explanation, Patient entered hypnotic state She reported visualizing herself jumping on clouds. She was asked to imagine Myelin resuming and encasing all damaged spots. Patient informed us that she is visualizing Myelin as cloud-made white clutches and can attach those clutches to the Myelin deficient spots. The patient was asked to visualize auto immune cells and carry out a repair so that those cells would cease attacking brain and body: for example, step inside an imaginary laboratory and ask the Immune Cell Supervisor to help repair them. When asked what was going on, the patient reported that she is simply coloring Myelin white instead of grey, and consequently, auto immune cells stop attacking the white areas as they no longer identify them as Myelin. At the end of the meeting, it was agreed that the patient would practice on her own the entire procedure at least twice a day for a week until the following meeting.

In guided imagery for pain alleviation, during hypnosis, when patient was asked to describe the pain, she said it appeared like a heavy metallic black ball. Patient was suggested to keep the black ball (pain) away by using a powerful external imagery magnet whose power is controlled by a handle with tick marks 1 to 10, with lowering handle from 10 downwards decreases pain's intensity, and pain hardly noticeable at numbers lower than 1-2. She was instructed to continue this practice at home.

2.2.3 Third Meeting

Treating upper digestive tract mobility was attempted. Further to entering a hypnotic state, the patient was offered detailed information, clarifying that the upper digestive tract muscles are very strong and well synchronized. This for example, enables astronauts to eat in space even in no-gravity conditions, as these muscles advance food and push it in one sole direction, which is "deep and down".

The attending physician (N.L.) showed patient a video of barium intake and explained that it demonstrates the muscle contractions of the pharynx, patient entered a hypnotic state and received a glass half filled with water. She drank the water, sip by sip, while being given a suggestion to feel how that water flows from the mouth to the pharynx, from the pharynx to the esophagus, from the esophagus to the stomach, and from the stomach to the duodenum, as Patient was chanting a mantra: "Deep and down..., deep and down...". Simultaneously she started reporting the water's path, as it descended via the esophagus and passed through the sphincter between the esophagus and the stomach. After having taken a few sips, as a post-hypnotic suggestion, the Patient was asked to turn to the right and to the front and to feel the water as it was flowing in the direction of the duodenum by sheer force of Gravitation and with the help of stomach's muscles contractions towards "deep and down". It was agreed that she would continue this drill at her home while eating and drinking, and then de-hypnotizing was carried out.

2.2.4 Fourth Meeting

The patient reported having started consuming soft or ground fruit at least once per day and being able to drink about one and a half liters of water per day. The patient's weight had stabilized, and she had started going to a gym two to three times a week, as compared to the one or twice a week before. She had also resumed swimming in a pool.

During those hypno-therapeutic meetings, the attending physician (N.L.) explained to Patient the states of acute and chronic stress, clarifying that chronic stress triggers the excitation of the sympathetic system and secretion of stress hormones, with over-secretion of certain hormones. Stress increases the risk for chronic inflammatory and autoimmune diseases. In order to reduce chronic stress along with its side effects, the para-sympathetic system can be consciously strengthened by "strengthening" the Vagus nerve [8]. The patient was informed that the Vagus nerve synchronizes coordinated control of the head, heart, and bowel and that it is possible to influence the Vagus nerve by conscious deep breathing while counting 4 seconds of inhaling followed by a 4 second break and then 4 seconds of exhaling with yet another 4-second break.

The physician recommended that the patient also visualize the Vagus nerve as a rope of light being filled with energy by ofusing these breathings and perform this exercise at least 10 minutes per day.

Additionally, the importance of nutrition, especially that of the microbiome (the population of good bacteria) to general and immune health, was explained to the Patient. Daily consumption of yogurt or Tibetan Kefir, rich in "good" bacteria, was recommended.

2.3 Follow-Up

Some eight weeks following the first hypnotic intervention therapeutic session, as the patient continues meeting the physician (N.L.) once every three to four weeks, the patient reports practicing entering a hypnotic state daily and repeating all suggestions for at least one hour every day. A month and a week after the first hypnotic intervention therapeutic session, there was a follow-up meeting at the rehabilitation clinic, where the following improvements were measured:

1. Improvement in speech, with more fluent speaking and almost no Dysarthria.
2. Improvement in walking, with far less Dystonia.
3. Decrease in pain level, allowing lowering cannabis dosage from 15 drops a day to 6 drops a day, and later to 2 depths a day.
4. Improvement in eating and swallowing without aspirations.
5. Gaining 3 kilograms in weight.
6. Improvement in muscular strength (norm is 5 units):
 - a. Right quad up from 2 to 5
 - b. Left quad up from 3 to 5
 - c. Right ILP up from 2 to 3-4
 - d. Left ILP up from 3 to 4
 - e. Right distal up from 1 to 2
 - f. Left distal up from 0 to 2

After the onset of hypnotic treatment, the patient gained about 3 kgs; Having consulted with a dietician, the patient started reducing osmolytes. She reports improvement regarding urinary and bowel incontinence and alleviation of thigh and knee pain; Cannabis consumption has dropped to 2 to 3 drops in the morning. The patient reports progress with respect to gross motor and mood; reports increase of physical and social activity and attending recitals and concerts.

2.3.1 Additional Neurologic Assessment Including Detailed Neurological Examination and MRI Conducted after the Hypnotic Intervention

All self-reporting was subjected to validation via objective measures taken in tests carried out at the Rehabilitation Ward, where improvement was measured as follows: Speech improvement, with smoother articulation and all but entire, cease of dysarthria; gait improvement, with walking far less atactic; pain decrease, allowing for reduction of Cannabis consumption from 15 drops a day to 6 drops and eventually to 2 drops; eating and aspiration-free swallowing improvement, with 3 kg weight gain and motor improvement.

In response to improvement, and consequent of established trust in attending physician, Patient was persuaded to start taking an anti-depressant (Escitalopram) because of depressed mood, which until then she had adamantly declined for fear of taking too many medications.

Patient reports a resumption of appetite, mainly following gymnastics. She has increased gymnastics use from three to five times a week and resumed playing the piano for an hour a day at home.

At a latest meeting with the physician (N.L.), Patient reported 12 kg weight gain.

2.3.2 On Detailed Neurologic Examination Following the Hypnotic Intervention

The patient was cooperative and well oriented in time, space, and situation. In the detailed neurological examination after the hypnotic intervention, her cerebral hemispheric dominance was right with left-handedness alongside authority of her left leg and left eye. Language and speech were fluent, with intact naming and repetition, and without dysarthria. The cranial nerves were within normal limits: the pupils were equal, round, and reactive to light and accommodation; visual fields were intact to confrontation; ocular fundi were normal with a spontaneous venous pulse; ocular movements were entire, without gaze preference or deviation; no nystagmus was elicited; face was symmetric at rest and with activation, without nasolabial fold flattening and with intact sensation throughout; trigeminal nerve was intact in V1, V2, and V3 segments bilaterally; hearing to speech and to finger rub bilaterally was expected, as well as Rinne and Weber tests; palatal elevation was average and symmetric, with no uvular deviation; muscle strength was 5/5 in both sternocleidomastoid and trapezius bilaterally. The tongue protruded in the midline.

Optokinetic nystagmus was absent on the right. Muscle tone was minimally increased on the left, much more in the Lt. wrist. Muscle strength was 3-4/5 in the left arm and 4/5 in the left leg. In the right hand and leg - the tone and strength were normal. Deep tendon reflexes were relatively increased on the left. Trömner and Hoffmann's reflexes were elicited on the left. The plantar response was flexor bilaterally, and the Babinski sign was not elicited. Superficial abdominal reflexes were not produced. Sensation was intact to light touch, pinprick, vibration, and proprioception.

Dysmetria was noted on finger-nose-finger and heel-knee-shin tests on the left. Rapid alternating movements were impaired on the left. Romberg sign was elicited.

Gait ataxia was observed while walking on a broad base. An intentional tremor was observed, mainly in the left hand.

2.3.3 Auxiliary Examinations that were Conducted after the Hypnotic Intervention

MRI Brain Imaging showed Mild Leukoaraiosis - depletion of the White Matter Subcortical Conduction Pathways Wrapped in Myelin. This finding is more compatible with Lacunar Vascular Events and less so with Demyelinating Disease. Electroencephalography (EEG) showed brain electrical activity within normal limits.

3. Diagnostic Discussion

The clinical impression is of repetitive events in the cerebellum and brainstem, which quickly subsided and were followed by a spontaneous partial improvement with the sequela of Lt. cerebellar syndrome. However, there is evidence of a dominant subcortical functional impairment: the patient has difficulty remembering song lyrics but remembers the melody well, and optokinetic movement is impaired on the left.

The clinical picture corresponds to an organic brain syndrome resulting from damage to the cerebral subcortical neural pathways. The imaging findings are consistent with the clinical diagnosis. The normal electroencephalographic finding also supports the diagnosis of a subcortical pathology, as the electrical activity of the cerebral cortex (gray matter) is within normal limits.

The differential diagnosis includes a low degree of probability, immune, and central nervous system etiology, manifested mainly in the cerebellum and possibly a variant of brain stem encephalitis with damage to the cerebellar pathways. Additionally, rare cases were reported, first and foremost in Japanese children, of recurrent ataxia and the presence of antibodies to components of the glutamate receptor.

Given the extended periods of the patient's stay in forest areas in Russia, which was reported in her medical history, a workup was conducted at the Infectious Diseases Clinic on the issue of Borreliosis or some other infectious etiology. It was concluded that there is no possibility for further investigation at such a late stage, although the existence of a post-infectious etiology could not be ruled out.

4. Summary and Recommendations

As in many professions, so in medicine as well, there sometimes exists a gap between the laboratory-obtained empirical data and the clinical results accumulating in the field. The case discussed in this paper appears unique in several respects:

The patient's both extremely high measure of hypnotizability and strong motivation, with the long, steadfast relation between patient and physician. The intervention included hypnosis, self-hypnosis, guided imagery, and post-hypnotic suggestions. We want to emphasize that before our intervention, the patient was highly motivated, took her drugs regularly, and fully cooperated with physiotherapy and rehabilitation efforts without showing any improvement. Only after these interventions were combined with hypnotic intervention significant improvement was noticed with objective parameters.

Furthermore, we believe this case could serve as an incentive to both patients and researchers to promote similar treatments and clinical studies for strengthening the scientific grounds and allowing for more physicians to both recommend and use similar therapies.

It should be however noted that any treatment is an ongoing process, it is almost impossible to isolate all variables involved during that process to reach entirely untainted, unequivocal scientific conclusions.

We recommend that colleagues engaging in medical research proceed to perform studies researching the integration of guided hypnosis vs. neutral hypnosis or simple relaxation into the treatment of autoimmune diseases, as this field has been relatively neglected in comparison to others, such as the use of hypnosis in treating psychosomatic disorders, where research is more advanced and offers a bulk of studies upon which therapeutic intervention may be based [9, 10].

Author Contributions

Natali Lioubashevski, MD, was the medical doctor in charge of the treatment. Netzer Daie is a senior Clinical Psychologist and Hypnotherapist who planned and guided the hypnotherapy process. Prof. Yoram Finkelstein, MD, PhD was the neurologist in charge of diagnosis and assessment of the case. Prof. Eliezer Witztum, MD was the psychiatrist consulting on the case.

Competing Interests

The authors have declared that no competing interests exist.

Additional Materials

1. Appendix A - Hypnosis Terminology.

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