

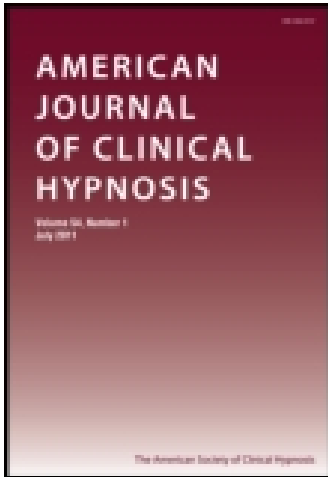
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Hypnotherapy in the Rehabilitation of a Stroke Victim: A Case Study

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Limitations of conventional rehabilitation of stroke victims have led to investigation of alternative techniques for treating neuromuscular dysfunction. This paper describes the treatment of a hemiplegic stroke victim using hypnosis. The subject regained full function of his leg and arm movements within 5 weeks, as well as improvement in facial muscle control.

The rehabilitation of a stroke victim is primarily a relearning process in which surviving cerebral and spinal pathways are mobilized to produce the desired neuromotor activity. The emotional state of the stroke victim strongly influences the effectiveness of any rehabilitation program. Stroke victims often suffer from a pervading depression and a low tolerance for frustration. Negative self-image, poor concentration, and lack of motivation can also prohibit rehabilitation efforts.

Kroger (1963) cited two case studies where hypnosis was used in the treatment of hemiplegics. In one, revivification or regression to the age of 3 or 4, under hypnosis, was used to reestablish the mental image of moving the limbs. A greater range

of motion was immediately noticeable. Posthypnotic suggestions were employed to encourage exercise and to combat depression. In the second study, Kroger reported that under hypnosis, spasticity was reduced in four patients who were completely paralyzed on the affected side. Supermaximal concentration, achieved through hypnosis, greatly accelerated the relearning process. In addition, the mental imagery which allowed the patients to see themselves as capable of movement served as an important motivating factor.

Crasilneck and Hall (1970) reported that hypnosis was used with 25 vascular and post-traumatic neurological patients, seen over a 9-year period, who had not responded to conventional rehabilitation procedures. In 21 of these cases, hypnosis was followed by a marked reversal of psychological attitude, and subsequently, of physiological functioning. In four cases, patients did not respond to hypnotic induction.

While an increase in motivation for re-

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covery seemed to be the major change elicited by hypnotherapy, other theoretical possibilities were discussed by Crasileck and Hall (1970). The possibility that hypnotic suggestions produced physiological changes that were not mediated through motivational change could not be discarded. Researchers have cited numerous studies where hypnotherapy produced dramatic results with patients suffering from other forms of neurological damage or disease. Chappell (1964) discussed four case studies in which the spasticity in paraplegia was reduced in patients while in a hypnotic state. Chappell questioned the neurological mechanism by which this occurred since all four cases demonstrated that impulses originating in the cortex influenced the musculature below the level of injury to the spinal cord even when there was known extensive damage to the cord.

Gravitz (1981) described the treatment of a brain-damaged centrally deaf patient through the use of non-verbal hypnotic techniques. While the deafness remained, the patient was quite susceptible to hypnosis. Within 2 months the patient's physical and emotional behavior significantly improved.

Brunn (1966) reported the use of hypnosis to reduce spasticity in a patient suffering from multiple sclerosis. Slater and Flores (1963) reported the use of hypnosis to remove the paralysis caused by organic brain disease. In this case study, hypnosis removed the organic paralysis in the subject's right arm and prevented the usual paralytic progression that normally follows in such cases. After the subject's death, autopsy revealed that a tumor had occupied and destroyed the entire motor and sensory cortex of the left dominant cerebral hemisphere. Slater and Flores (1963) discussed the hypotheses that either

rapid hypnotic transfer of dominance of the cerebral hemisphere had been accomplished, or that motor pathways in the frontal lobe were acting as a substitute motor cortex.

Method

Subject

The subject was a 57-year-old male who suffered a cerebrovascular accident while working as a musician in Germany. He was hospitalized for a week while he awaited transportation to the United States. Upon returning to the United States, a review of his pre-morbid psychological and medical histories found no contributing factors. Neurological examination found the subject's mental status to be of normal intellect and sensorium. A wide-based shuffling gait with moderate truncal instability and tendency to fall to the right was evident. The Romberg sign was found to be positive to the right, and cranial nerves were intact. Visual acuity was 20/50 OU without correction. Nystagmus was evident on lateral gaze, right to left and left to right, and upward gaze. However, no nystagmus was apparent with downward gaze. The pupils were myotic to 3 mm and were reactive to light and accommodation. Facial sensation to the right was decreased to pin-prick and temperature, and right peripheral facial weakness was noted. There was a right hearing loss with some preservation of bone conduction. There was also a deviation of the tongue to the left and impairment of guttural sounds. Distribution of the fifth cranial nerve was decreased to the right. Computerized axial tomography obtained sequential, axial, tomographic images with and without intravenous contrast. An ectatic basilar artery was present. Enlargement of the basilar tip or right posterior

communicating artery was suggested and raised the possibility of aneurysm. The subject was diagnosed as suffering a cerebrovascular accident and was discharged from the hospital after beginning conventional physical therapy.

The subject had made little improvement in the initial limitations imposed by the cerebrovascular accident when he was seen by the author. He was unable to feel the right side of his face or to control his tongue. Speech was impaired, and eating was very difficult. The right side of his cheek and his lips were swollen due to the subject biting himself. Right arm spasticity was apparent. The hand muscles remained contracted, and the hand was cupped. The subject had no digital movement in the right hand, and he could only walk with the aid of an ambulator.

Procedure

In the first session, the subject was regressed, under hypnosis, to the age of 10. At that age, the subject had been a track and field competitor and was in excellent physical condition. Hypnotic suggestion was given that the subject would be able to do everything he could do at age 10, and that he would remain in trance, regressed to age 10, as he demonstrated his ability.

After walking 15 paces forward while holding the author's arm, the subject was able to turn and stand unsupported. Guided imagery was used as a deepening technique, and the suggestions was given that the subject would open his eyes, remain in a hypnotic state, and walk to his chair just as he was able to do in his 10-year-old body. The subject walked to his chair and seated himself. Guided imagery was used once again to deepen the trance state. As the author rubbed the subject's right

arm from the shoulder to the finger tips, the suggestion was given that the paralysis would be transferred to the left arm. Upon request, the subject squeezed the author's hand with his right hand to demonstrate the transfer of the paralysis. Next, the author rubbed both arms of the subject from the shoulders to the finger tips and suggested that both arms would function normally. Again, upon request, the subject squeezed both the author's hands with his hands. The subject also squeezed the hands of an observer. Neither the author nor the observer could feel a difference in strength between the subject's right and left hands.

Next, the author requested that the subject count from one to one-hundred. Guided imagery was again used to deepen the trance state, and the suggestion was given that with each number the subject's speech would become clearer as he gained more control of his facial muscles. As he continued to count, the subject's speech became noticeably clearer. Finally, the suggestion was given that the subject would be able to hear in his right ear. While the author held his hand over the subject's left ear, he softly rubbed his fingers together near the right ear. There was improvement in the subject's hearing.

In the second session, a week later, the subject reported that he was walking unsupported except for steep inclines. He also reported that it was much easier for him to eat and talk. The swelling had decreased around his mouth and cheek. The subject continued to have limited use of his right hand. Although he now had some finger movements, he could not grasp a pencil correctly, and he trembled when he attempted to write. A sample of the subject's writing was obtained as baseline data. He attempted to write the numbers "one" to "ten," but most numbers could not be

recognized by the author. Using a standard trance induction, the subject was then hypnotized and told to open his eyes and again write the same numbers. There was an immediate and remarkable improvement in control, and the previously unrecognizable numbers were easily discernible.

While continuing the hypnotic trance, the subject walked across the office. He appeared to have full function of his foot and leg. During the session, the author worked in the same manner with the subject's speech as in the previous session. The speech was clearer, and the facial muscles were far more controlled. The subject walked unaided out of the clinic after this session.

The subject returned one week later for the third session. He no longer required an ambulator in any situation, his gait was steady and coordinated, and he spoke more clearly. The author continued to work with the subject as he had in the first two sessions. The subject signed his name for the first time under hypnosis.

By the fourth session, the subject had full function of his leg, facial muscles, arm and hand. During this session, the subject who had been a professional saxophone player, was able to play his instrument for the first time in a waking state. He had proper embouchure and good dexterity; however, he could only play for approximately 5 minutes. After the subject was hypnotized, he played for 17 minutes before tiring.

Five days later the subject returned for the fifth and final session. During this session, the subject played his saxophone alone in a hypnotic state for 10 minutes. The subject was instructed to keep his eyes closed. He was later instructed to open his eyes, remaining in trance, and continue to play. The author accompanied him

on piano while the subject played for 30 minutes before stopping.

Results

Within five sessions of hypnotherapy, the subject's hemiplegia was greatly reduced, restoring him to a nearly normal functional level. A cerebrovascular accident had severely impaired the subject's right side. Right arm spasticity was apparent: the hand muscles remained contracted and the hand was cupped. The subject had no digital movement in the right hand. He suffered foot-drop and could only walk with the aid of an ambulator. The right side of the subject's cheek and lips was numb and swollen. Speech was unclear, and eating was difficult. There was a severe hearing loss in the right ear.

Within three weekly sessions, the subject regained full use of his leg and foot. By the third session the subject had gained enough hand control to write his name and the numbers from "one" to "ten." By the fourth session he had enough dexterity and facial muscle control to play his saxophone. By the fifth session, the subject gained enough facial muscle control to play his saxophone for up to 30 minutes while in trance. His speech was restored to a near normal level of clarity. None of the hearing impairment in the right ear was restored.

Discussion

The limitations of a case study are obvious; however, this present study suggests possibilities for the application of hypnosis in the rehabilitation of stroke victims. Positive results were achieved in a brief period of time with the subject.

The subject began treatment within 2 months following his stroke. He did not show the pervading depression and frus-

tration that often develops in stroke cases. Equally important, the subject did not apparently reach the point where he was receiving secondary gain from his impairment, and he was highly motivated to regain his normal level of function.

The rapport between the subject and the operator was extremely strong. The operator was also a musician and acquainted with the work of the subject so that he had a practical understanding of the degree of control that would be needed for the subject to resume his career. This not only allowed the operator to make specific suggestions regarding adjustments in movements, but it also appeared to build confidence in the subject for the operator's abilities, thereby enhancing the rapport.

In this case the subject was highly susceptible to the hypnosis as evidenced by the achievement of somnambulistic states where he was able to open his eyes while remaining in trance. One can only speculate whether such results could have been achieved with a less susceptible subject. Nevertheless, this present case study invites further investigation into the appli-

cation of hypnosis in the rehabilitation of stroke and other brain-damaged persons.

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