Case series on use of hypnotherapy with imagery in patients presenting with functional stroke

Sanyal R¹, Muddegowda G¹, Natarajan I¹, Ferdinand P¹, Roffe C¹
¹ University Hospital of North Midlands NHS Trust, Stroke Medicine, Stoke-on-Trent
And Stroke Research in Stoke, Institute for Applied Clinical Studies, Keele University, UK

INTRODUCTION

Functional Neurological Disorder is an umbrella term used to describe a condition where the symptoms are not explained by current model of disease. It is estimated that around 5% - 12% of all patients presenting with stroke symptoms are functional or functional overlay. Scotland is a world leader in functional neurological disorder, in 2003; a comprehensive research was conducted to estimate the size and extent of these disorders. The result shows that 31% of the patients attending the neurology out patients had functional symptoms, 27% of the patients who had functional symptoms are not working for health reason with impact on the wider economy, including increase in benefit claim.

In Scotland, it is estimated that 5000 people per year are estimated to be diagnosed with functional neurological disorder and overall cost to the economy was £1.3 million/year for Out Patient care, £6.01 million/year as In Patient care and £4.01 million/year in the PPrimary care. It was suggested in Scottish studies, if these patients are properly managed, it will result in 50% reduction in health service utilisation. There is no similar study conducted in England, However, Department of Health England estimates that medically unexplained symptoms cost the wider economy £18 billion each year. It costs the NHS £3.1 billion, £5.2 billion in lost productivities, £9.3 billion attributed to reduce quality of life. Local data collected from Durham University shows that 85% of people who are diagnosed with non-epileptic attack are unemployed. Hence it is very clear that functional disorder is an important condition facing the health service and it results in loss of productivities, poor quality of life and huge economic burden. Treatment of this condition is very difficult.

Presently in the UK, physiotherapy, occupational therapy, psychological therapy and medications such as sleeping tablets, painkillers and anti-depressants are used for the management of the condition. Overall treatment is difficult and recurrence is high.

Hypnosis is a temporary condition of altered attention in the subject which may be induced by another person and in which a variety of phenomena may appear spontaneously or in response to verbal or other stimuli. These phenomena include alterations in consciousness and memory, increased susceptibility to suggestion, and the production in the subject of responses and ideas unfamiliar to him in his usual state of mind. Further, phenomena such as anaesthesia, paralysis and rigidity of muscles, and vasomotor changes can be produced and removed in the hypnotic state. [BMA,'Medical use of Hypnotism', 1955]. In the UK, hypnotherapy is used in functional disorder like IBS and there is evidence of its use in various disorders like anxiety, insomnia, PTSD etc. Hypnosis is used successfully in recovery of patients following stroke. A recent review by Oakley has shown that there are only a handful of case reports of use of hypnosis in functional neurological disorders with success but most of the report are single cases. There are two randomised controlled trial published by the same group Moene et al. Out of these two trials , one is positive and another is negative. To date, this is the largest case series on use of hypnosis in patients treated with hypnotherapy for functional stroke symptoms.

Methods

Recruitment of patients:

Between March 2014 and February 2018, successive patients with a clinical diagnosis of functional stroke supported by normal imaging, positive clinical signs for the diagnosis confirmed by a stroke physician, were included in this study. The patients who were diagnosed to have functional overlay had damage in the CNS on imaging but their symptoms were considered to be inconsistent or disproportionate to the damage. Patients were offered hypnotherapy on top of standard therapy. The standard therapy includes physiotherapy, occupational therapy and Speech and Language therapy where applicable. The hypnotherapy was provided by a single stroke physician trained in the technique in the University Hospital of North Midlands NHS trust. Each and every patient was offered hypnotherapy if the symptom persisted for greater than 24 hours. The number of sessions of hypnotherapy received by the patients depended on response to treatment with hypnotherapy. Everybody had at least one follow up and they were offered open long term follow up for recurrence of the symptoms.

Inclusion criteria

- Patient with diagnosis of functional stroke, confirmed by above mentioned criteria.
- Age greater than 18 years.
- Symptoms persisting more than 24 hours.
- No problem in speaking and understanding English.

Exclusion criteria

- Moderate to significant cognitive impairment.

The treating physician informed the patient about the hypnotherapy option and consent was taken prior to initiating hypnotherapy. The rational for the therapy was explained to the patient. The study was approved by the medical ethics committee of the trust.

Treatment Strategies:

Two main treatment strategies were undertaken. The first one was symptom oriented approach and the second one was insight oriented approach. The decision to utilise the particular approach was taken by the treating physician. Imagery was the integral part of the treatment. The whole procedure took 60 – 90 minutes. Patients were also taught the self-hypnosis technique to continue to practice at home. In some patient audio recording of the treatment was provided to practice at home. Patients were followed up within 6 weeks and given access to an appointment if there was recurrence of symptom. The results were collected from the notes in Microsoft Excel and analysed.

Results

68 patients were included in the case series. The patient group included functional disorder and functional overlay. Overall the female: male ratio was 52:16 and the mean (range) NIHSS score was 4.8 (1- 9). The mean age of the patients was 34.5 years (range 19 – 76 years). Out of the 68 patients, 10 were diagnosed to have functional overlay and the reminder, functional disorder. The mean age of the patients with functional disorder was 34.5 years (range of 19 - 76 years) as opposed to functional overlay 46 years (range 28 – 76 years). The female: male ratio for functional disorders and functional overlay are 45:13 and 7:3 respectively. The mean NIHSS score for functional disorders was 6.3 (range1-9) and the mean NIHSS score for functional overlay was 3.2 (range 1-5). 81% of these patient was diagnosed to have functional disorder at their first presentation in the hospital. The common presentations noted in these patients include unilateral weakness of the limbs and unilateral facial asymmetry, dysarthria, ataxia, sensory impairment, facial weakness and visual deficit. The primary presentation in 58 out of 68 was weakness of the limbs. 36 had a right and 22 a left hemiparesis. The weakness of the limbs involved both proximal and distal group of muscles with evidence of inconsistencies while examining. Most of the patients also clearly demonstrated difficulties in their movement while observing their own movement. One of the patients had myotonic symptoms along with the weakness of the limbs. The primary presentation in 4 patients were severe dysarthria and dysfluency syndrome; 3 patients had ataxia, which involved the trunk and the limbs and 3 patients had loss of sensation on the right side of the body involving the face. Five patients presented with visual impairments, which included homonymous hemianopia, reduced peripheral fields, reduced acuity and blurring of vision. Out of these five patients, two presented primarily with visual deficit and in the rest had other neurological deficit along with the visual impairment.

In 55 out of the 68 patients, there were clear psychological links. The possible psychological triggers included childhood trauma (physical, psychological, sexual), loss of family members, breakdown of relationships, changes in financial circumstances, taking the role of carers. Most of the events happened either in childhood, or the preceding few months of presentation with functional disorders. Interestingly, none of the patients with functional overlay had any major psychological link that could be established.

2 out of 68 patients could not be hypnotized. Out of the 2 patients who could not be hypnotised, the first patient had severe pain and the second patient was too anxious and both did not manage to follow any command. The patient is considered to have responded if there is a drop in the NIHSS of 4 or more. In those patients where the NIHSS drop is less than 4, if the NIHSS dropped to zero, it is also taken as a positive response. The patients were considered to be non-respondent if they didn't want to continue treatment and if their NIHSS dropped less than 4. 58 out of 66 patients responded according to the criteria. Those patients who responded to treatment, had a mean NIHSS (pre and post treatment) of 4.913 and 0.362 respectively. 47 out of 58 patients who responded to hypnotherapy received one session, remainder required two or more sessions (maximum 6 sessions) for resolution of symptoms. All 58 respondent patients were contacted by phone after 6 months post treatment, out of which 50 remained well without recurrence. 8 patients developed new symptoms but responded to a repeat hypnotherapy treatment.

Conclusions

- **To our knowledge this is the largest case series reporting the use of hypnosis for the treatment of functional stroke.**
- **In this group of patients with functional strokes, hypnotherapy was associated with rapid and sustained recovery of symptoms.**
- **No adverse events were identified.**
- **Early diagnosis and institution of treatment may be a key factor for excellent outcome in this series.**
- **This case series suggests that hypnotherapy may be effective in the treatment of functional stroke.**

References

1. Commissioning for Functional Neurological Disorders. 1st ed. Northern England Strategic Clinical Networks; 2015.
2. Thomas M, Jankovic J. Psychogenic Movement Disorders. CNS Drugs. 2004;18(7):437-452.
3. Stone J, Warlow C, Sharpe M. The symptom of functional weakness: a controlled study of 107 patients. Brain. 2010;133(6):1537-1551.
4. Stone J, Carson A, Sharpe M. Functional Symptoms in Neurology: Diagnosis and Management. ACNR [Internet]. 2017 [cited 3 May 2017].
5. Walters B, Sanyal R. A Survey to Determine Current Service Provision For Functional Weakness in Stroke Units Across the United Kingdom. (Abstract ESOC 2017)