

## Comparison of Four Different Treatment Options in the Management of Acute Conversion Disorder

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**Objective:** Patients with conversion disorder may be seen by different specialists in various clinics and emergency situations. However, there are not sufficient studies on the most effective treatment for this disabling illness.

**Methods:** In a clinical trial, we compared four treatment strategies; muscle relaxation, suggestion, hypnosis and intravenous diazepam infusion, in 80 patients with acute conversion disorder. Speed of recovery and number of the recurrences in a month following different treatment options were compared among groups.

**Results:** Recovery was significantly quicker with muscle relaxation compared to hypnosis and diazepam infusion. In patients with comorbidity of major depressive disorder, recovery was even faster. There was no statistically significant differences in the number of remissions or relapses among the four groups.

**Conclusion:** All the four different treatment strategies brought about significant recovery. However, after treating patients with muscle relaxation, recovery was faster compared to other treatment methods.

*Iranian Journal of Psychiatry and Behavioral Sciences (IJPBS), Volume 2, Number 1, Spring and Summer 2008: 21-25.*

**Keywords:** Conversion disorder • Diazepam • Hypnosis • Muscle relaxation • Suggestion

### Introduction

Conversion disorder is a change or loss of sensory or motor function that suggests a neurological or other general medical condition, and its symptoms are usually preceded by a stress (1). Some studies reported a 33% for its lifetime prevalence (2), and a 5-16% frequency in consulted patients from general hospitals (3). Despite its prevalence, there is not sufficient agreement about the most effective treatment for conversion disorder (4-7). On the other hand, the shortness of the interval between onset of the symptoms and start of treatment is an indicator of good prognosis(2), which emphasizes the necessity of determining the most effective treatment for this disorder (8-11). Bock and Smith in a retrospective study found a 93% and 71% remission of conversion disorder by using droperidol or benzodiazepine respectively

(12). Hafeiz's study on treatment with suggestion, electrical stimulation, electrosleep and amphetamine showed 85% remission and 21% relapse rate in the first year after treatment (13). Hafeiz's study was conducted on inpatients and less attention was paid to the acute form of conversion disorder. Some of the methods used for treatment of conversion disorder include: suggestion, hypnosis, narcosis, muscle relaxation, pharmacotherapy, paradoxical treatment, and biofeedback (14-20). But the question regarding the most effective treatment of conversion disorder remains unanswered.

We compared four common treatment methods of conversion disorder; suggestion, muscle relaxation, hypnosis, and diazepam injection to fill this gap in current literature.

### Materials and Methods

In a clinical trial from 2005 to 2006, we compared different treatment options among 93 patients with acute conversion disorder who were referred to emergency psychiatric unit of Noor hospital (Isfahan- Iran).

The inclusion criteria were: (1) all outpatient referrals with conversion disorder

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except epileptiform subtype (2,21-23); age between 10-50 years old; (3) onset of illness in the past 24 hours; (4) no history of conversion disorder in the last year before the study.

Exclusion criteria were: (1) non consenting patients or careers (2) non compliance after initial agreement; (3) failing to enter in trance state; (4) no accessibility for one month follow up after treatment.

Diagnosis, based on DSM-IV-TR criteria (1) and interventions were carried out by a psychiatrist on site.

We compared the means of remission and relapse rates of different methods by using chi-square, fisher's exact test and one way ANOVA. T-student was used for comparison between two groups of patients (those with comorbidity and those without comorbidity). P value of 0.05 and less was considered as significant.

We compared four different interventions: suggestion, diazepam injection, muscle relaxation, and hypnosis. We managed to include 20 patients in each group randomly. In the first group, interviewer suggested relief from symptoms by talking to the patients (2,9,20). Diazepam (intravenous injection, 5 mg in one minute) was used in the second group (24). In group 3, patients were asked to lie down on a couch and were educated how to contract and relax their muscles (25,26). Finally, in the last group the psychiatrist used hypnosis to put the patients in a trance state (4,27).

Each patient had one two-hour session of intervention. The remission was defined as symptom relief during or following the intervention. The patients were then

followed up for relapse during one month after treatment. We considered "relapse" as at least one episode of symptom reappearance during one month following treatment. The patients and their families were educated about the symptoms and relapse signature. The role of psychosocial stressors as precipitating factors was explained to the patients and the families.

We only used medication to treat any comorbid mood or anxiety disorders.

## Results

Our study population consisted of 53 females (66%) and 27 males (34%). Patients presented with the following symptoms: 29 had aphonia (36.25%), 24 paresia (30%), 16 both aphonia and paresia (20%), 9 tremor (11.25%), 1 blindness (1.25%) and 1 paresthesia (1.25%).

Thirty seven patients had comorbidity (46%), most of them major depressive disorder (MDD). Regarding patients' educational level: 5 were illiterate (6%), 17 said that they finished primary school (21%), 9 secondary school (24%) and 29 high school (36%). Ten patients had university qualification (13%).

The mean duration of time required for recovery in muscle relaxation method was significantly shorter than hypnosis and diazepam injection ( $p=0.04$  and  $p=0.006$  respectively), but this was not significantly different from suggestion method ( $p=0.19$ ). The mean duration of time required for recovery was not significantly different in three methods of suggestion, hypnosis and diazepam injection ( $P>0.05$ ) (Table 1).

**Table 1.** Frequency of recovery and relapse and mean and standard deviation of speed of recovery following each intervention

Therapeutic interventions	Number of patients in each group	Remission		Relapse during one month after intervention
		Number of patients recovered (%)	Mean and standard deviation of the speed of recovery after initiation of intervention (minutes)	Number of relapses (%)
Suggestion	20	15 (75%)	22.93 ± 16.51	2 (11.8%)
Hypnosis	20	14 (70%)	26.64 ± 9.25	5 (29.4%)
Muscle relaxation	20	15 (75%)	16.47 ± 23	6 (35.3%)
Intravenous Diazepam	20	13 (65%)	30.92 ± 16.57	4 (23.5%)
P.Value	-	0.87	0.036	0.40

None of the groups showed any superiority to others regarding the rate of remission or relapse ( $p=0.87$  and  $p=0.40$ , respectively). Those who had comorbid psychiatric illness had a shorter mean recovery time in comparison to other groups ( $20 \pm 13.9$  and  $27 \pm 13.3$  minutes,  $p=0.04$ ), but number of remissions and relapses did not differ significantly ( $p>0.05$ , chi-square).

Rate of remission during the first 10 minutes of treatment was significantly higher in relaxation method than in hypnosis (25% and 0%, respectively,  $p=0.03$ ). Also, rate of remission during the first 30 minutes of treatment was significantly higher in relaxation method than in diazepam injection (35% and 25% respectively,  $p=0.009$ ). But there was no statistically significant difference between the rate of remission in four methods after 30 minutes of treatment ( $p>0.05$ , chi-square).

We did not find any significant correlation between speed of recovery and the relapse in the first month following treatment.

### Discussion

Our study showed that the four different interventions had equal efficacy in treatment of acute conversion disorder. Nevertheless, muscle relaxation caused more rapid recovery in comparison to other methods. This may be explained by more rapid effects of muscle relaxation method in stopping vicious cycle of anxiety (28). Similar to the combined effect of diazepam and hypnosis, the muscle relaxation produces both sedation and suggestibility (5,27). Moreover, there is a stronger and closer doctor-patient relationship in muscle relaxation technique in comparison to other methods (16).

Overall 71% of patients recovered, which is in keeping with the findings of previous studies (4,13,29). We didn't find any correlation between speed of recovery, rate of remission or relapse rate and patients' age, gender, level of education, job, and different types of symptoms.

Similar to previous research, we found a high rate of comorbidity of MDD with conversion disorder (16,30,31). The fast recovery in patients with comorbidity may suggest that the background disorder had a role in the development of conversion symptoms.

In our study we did not have a control group, although one can argue that each group was a control for the others. Ethically we could not justify the selection of a control group without receiving any therapeutic intervention. Also, the psychiatrist who carried out the assessment and the therapeutic works was not blind to the intervention groups. This was to improve the rapport and therapeutic relationship, which is necessary for treatment of conversion disorder (2).

### Conclusion

Our study showed the equal efficacy of four different methods in treating acute conversion disorder. It showed that among different therapeutic options, muscle relaxation produced significantly faster recovery than hypnosis and diazepam injection.

### References

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4<sup>th</sup> edition. Washington DC: American psychiatric Association; 2000.
2. Hollifield MA. Conversion disorder. In: Sadock BJ, MD Sadock VA, MD editors. Kaplan and Sadock's comprehensive textbook of psychiatry. Philadelphia: Lippincott Williams and Wilkins; 2005. p. 1814-8.
3. Schwartz AC, Calhoun AW, Eschbach CL, Seelig BJ. Treatment of conversion disorder in an African American christian woman: cultural and social considerations. *Am J Psychiatry* 2001; 158(9): 1385-91.

4. Moene FC, Spinhoven P, Hoogduin KA, Van Dyck R. A randomized controlled clinical trial of a hypnosis-based treatment for patients with conversion disorder, motor type. *Int J Clin Exp Hypn* 2003; Jan, 51(1): 29-50.
5. KJ Looper, LJ Kirmayer. Behavioral medicine approaches to somatoform disorders. *J Consult Clin Psychol* 2002; 70(3): 810-27.
6. Heruti RJ, Levy A, Adunski A, Ohry A. Conversion motor paralysis disorder: overview and rehabilitation model. *Spinal Cord* 2002; 40(7): 327-34.
7. Campo JV, Negrini BJ. Case study: negative reinforcement and behavioral management of conversion disorder. *J Am Acad Child Adolesc Psychiatry* 2000; 39(6): 387-90.
8. Heruti RJ. Conversion motor paralysis disorder. *South Med J* 2006; 99(4): 327-8.
9. Krull F, Schifferdecker M. Inpatient treatment of conversion disorder: a clinical investigation of outcome. *Psychother Psychosom* 1990; 53(Pt 1-4): 161-5.
10. Turgay A. Treatment outcome for children and adolescent with conversion disorder. *Can J Psychiatry* 1990; 35 (Pt 7): 585-9.
11. Sharpe M. Medically unexplained symptoms and syndromes. *Clin Med* 2002; 2: 501-4.
12. Bock PJ, Smith SW. Droperidol for the treatment of conversion disorder in the emergency department. *Ann Emerg Med* 2006; 48: 127.
13. Hafeiz HB. Hysterical conversion: a prognostic study. *Br J Psychiatry* 1980; 136: 548-51.
14. Ataoglu A, Ozcetin A, Icmeli C, Ozbulut O. Paradoxical therapy in conversion reaction. *J Korean Med Sci* 2003; 18: 581-4.
15. S Moene F, Spinhoven P(KliG), Hoogduin, CAL, Dyck R van. A randomized controlled clinical trial of a hypnosis-based treatment for patient with conversion disorder, motor type. *Int J Clin Exp Hypn* 2003; 51(Pt 1): 29-50.
16. Bourgeois JA, Chang CH, Hilty DM, Servis ME. Clinical management of conversion disorder. *Curr Treat Options Neurol* 2002; 4: 487-97.
17. Ataoglu A, SirA, Ozkan M. Paradoxical therapy in conversion disorder. *Turk J Med Sci* 1998; 28(4): 419-21.
18. American Psychiatric Association. Conversion disorders: Treatment of psychiatric disorder. Washington DC: American Psychiatric Association; 1989; P. 2152-9.
19. Silver FW. Management of conversion disorder. *Am J Phys Med Rehabil* 1996; 75(21): 134-40.
20. Lemonnier E, Allilaire JF. Treatment of hysteria. *Rev Prat* 1995; 45(20): 2573-7.
21. Massaki K. [Epilepsy and pseudoseizures derived from their dissociation.] *Seishin Shinkeigaku Zasshi* 2006; 108(3): 251-9 Japanese.
22. Orbach D, Ritaccio A, Devinsky O. Psychogenic, nonepileptic seizures associated with video EEG-verified sleep. *Epilepsia* 2003; 44(1): 64-8.
23. Bowman E.S, Coons P.M. The differential diagnosis of epilepsy, pseudoseizures, dissociative identity disorder, and dissociative disorder not otherwise specified. *Bulletin of the Menninger Clinic* 2000; 64(2): 164-180.
24. Lacy CF, Armstrong LL, Goldman MP, Lance LL. Drug information hand book. Lexi-Comp; 2005. p. 434-6.
25. Smith JC. Relaxation, meditation and mindfulness: a mental health practitioner's guide to new and traditional approaches. New York: Springer Publishing; 2005. P. 61-7.
26. Davis M, Mckay M, Esheman ER. The relaxation and stress reduction workbook. New York: New Harbinger Publications; 2000. P. 32-7.
27. Arons H. The new master course in hypnotism. Alhambra Borden Publication; 1986. p. 86-96.
28. Koslowska K. Healing the disembodied mind: contemporary models of conversion disorder. *Harv Rev Psychiatry* 2005; 13(1): 1-13.
29. Shapiro AP, Teasell RW. Behavioral intervention in the rehabilitation of acute

- v. chronic non-organic (conversion/factitious) motor disorder. *Br J Psychiatry* 2004; 185: 140-6.
30. Binzer M, Anderson PM, Kullgren G. Clinical charectistics of patients with motor disability due to conversion disorder: a prospective control group study. *J Neurol Neurosurg Psychiatry* 1997; 63: 83-8.
31. Pehlivanurk B, Unal F. Conversion disorder in children and adolescents: a 4-year follw up study. *J Psychosom Res* 2002; 52: 187-91.