

Ericksonian hypnosis in tinnitus therapy

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Abstract. *Ericksonian hypnosis in tinnitus therapy.* **Objective:** To evaluate the effect of Ericksonian therapy on tinnitus
Study Design: Non-randomised, prospective longitudinal study.

Setting: Tertiary referral centre.

Patients: A total of 49 patients underwent hypnosis therapy. Fourteen patients failed to finish the therapy (drop-out rate: 35%). Of the 35 patients who completed the therapy, 20 were male and 15 female. The average age was 46.3 years (range 17-78).

Intervention: The treatment is based on the principles and approaches of Ericksonian hypnosis. The first session was mainly dedicated to the evaluation of the impact of tinnitus on the patient's life and to an explanation of hypnosis therapy. The next sessions were "learning sessions" based on relaxation and mental imaging. Exercises were first based on all senses other than hearing. Then they focused on hearing, teaching patients how to modulate sound intensity, and finally how to modulate tinnitus intensity. Patients also learnt self-hypnosis.

Main Outcome Measure(s): To evaluate the effect of the treatment, tinnitus was assessed with the Tinnitus Handicap Inventory questionnaire before and after the therapy.

Results: After 5 to 10 sessions (mean: 8.09 + -1.92) of Ericksonian hypnosis therapy, the 35 patients were capable of self-hypnosis with the aim of modulating their tinnitus, and the measured THI score fell for all patients. The global score improved significantly from 60.23 before EH therapy to 16.9 at discharge. Within the group, the initial score was distributed as follows: 0% slight, 14% mild, 31% moderate, 31% severe and 23% catastrophic. The t-test for dependent variables revealed significant improvements in all subgroups ($p \leq 0.005$).

Conclusions: The results of this clinical trial demonstrate that Ericksonian hypnosis, in particular using self-hypnosis, is a promising technique for treating patients with tinnitus.

Introduction

Tinnitus is the perception of sound in the absence of an external stimulus. Most people have experienced tinnitus at some time, but tinnitus has a major effect on the quality of life of up to 3% of the adult population. At present, there is no consensus about how to treat tinnitus. However, since Pearson and Barnes¹ reported the first successful use of hypnosis in the treatment of tinnitus, interest in the use of this technique has grown.²⁻⁸ Even though previous studies have reported that hypnosis can reduce tinnitus annoyance and the associated symptoms, we lack studies of larger series comparing hypnosis with controlled treatment.

One field where the efficacy of hypnosis has been objectively evaluated and validated is pain control.⁹ The analogy between tinnitus and neuropathic pain has already been the subject of extensive attention.¹⁰⁻¹³ Both conditions are triggered by peripheral lesions (noise trauma, ageing, sudden deafness...) and result in plastic change (abnormal neural activity in the auditory pathway and in related cerebral areas, as well as alterations in the cortical tonotopic map). Another common feature is abnormal stimuli perception: allodynia and hyperalgia in the case of neuropathic pain, and hyperacusia for tinnitus. We believe hypnosis is a promising technique for reducing tinnitus annoyance, as it is for pain.

It is now commonly accepted that, in all patients whose tinnitus does not have a somatic origin, tinnitus originates from the central nervous system (CNS). Functional imaging studies support this theory, showing abnormal neural activation in the CNS. Not only is there abnormal activation in the classical auditory pathway, tinnitus physiopathology also involves other cerebral areas that are mainly linked with the emotional process, such as the limbic system.¹⁴ In fact, patients with tinnitus are known to have increased levels of stress and anxiety. Hypnosis could help them to cope with this, and reduce their levels of anxiety.

In this study, we evaluate the effect of hypnosis on tinnitus

using the Tinnitus Handicap Inventory (THI).

Patients and Methods

Design

A prospective longitudinal study design was used to examine the treatment effects of an out-patient therapy concept based on principles of modern Ericksonian hypnosis (EH). It was hypothesised that EH treatments would (1) significantly reduce tinnitus annoyance and (2) reduce the emotional, functional and catastrophic impact of the tinnitus on the patient.

Subjects

This study enrolled patients who had been referred to the ENT department of the CHU of Liège and who wanted treatment for their tinnitus. Patients whose tinnitus was of somatic origin, and those with a known psychiatric or addictive disorder, were excluded.

Assessment

To evaluate the effect of the treatment, tinnitus was assessed with the Tinnitus Handicap Inventory questionnaire before and after the therapy. THI is a 25-item questionnaire which provides a total score (range 0 to 100) for the level of tinnitus annoyance (0-16: slight, 18-36 mild, 38-56 moderate, 58-76 severe, 78-100 cata-

strophic). The THI also provides 3 subscale scores for the emotional, functional and catastrophic impact of the tinnitus on the patient.

Treatment

The treatment is based on the principles and approaches of Ericksonian hypnosis. The first session was mainly dedicated to the evaluation of the impact of tinnitus on the patient's life and to an explanation of hypnosis therapy. An initial exercise with simple visualisation was also performed. The next sessions were "learning sessions" based on relaxation and mental imaging. Exercises were firstly based on all senses other than hearing. Then they focused on hearing, teaching the patients how to modulate sound intensity and finally how to modulate tinnitus intensity. Patients also learnt self-hypnosis. The sessions took place once a month and lasted 45 minutes. Between each session, patients were told to practice relaxation and self-hypnosis at home. Therapy was rounded off when the patients were able to achieve self-hypnosis and modulate their tinnitus. Follow-up at 3 and 6 months was also proposed.

Results

A total of 49 patients were given hypnosis therapy by a psycholo-

gist trained in the use of Ericksonian hypnosis. Fourteen patients failed to finish the therapy (drop-out rate: 35%). Of the 35 patients who completed the therapy, 20 were male and 15 female. The average age was 46.3 years (range 17-78). The duration of tinnitus before inclusion in the study was less than a year for 43% and more than a year for 57% of the patient population. Tinnitus was bilateral in nine, right-sided in ten and left-sided in ten patients. A total of 60% had a hearing impairment, 40% had normal hearing. In addition, 29 patients had already tried other treatment without significant relief. After 5 to 10 sessions (mean: 8.09 \pm 1.92) of Ericksonian hypnosis therapy, the 35 patients were capable of self-hypnosis and could modulate their tinnitus, and the measured THI score fell for all patients. The improvement in THI score was more than 30 points in 80% and more than 50 points in 37%. The global score improved from 60.23 before EH therapy to 16.9 at discharge (Table 1). The t-test for dependent variables revealed significant improvements ($p \leq 0.0001$). Within the group, the initial score was distributed as follows: 0% slight, 14% mild, 31% moderate, 31% severe and 23% catastrophic. The t-test for

Table 1

Evolution of the THI scores for all patients and for the various subgroup of tinnitus before (admission) and after (discharge) EH therapy. SD (standard deviation) and p-value show significant reduction after treatment

	Admission mean	SD	Discharge mean	SD	Decrease mean	T-value	P
All patients	60.23	19.12	16.97	10.51	43.26	15.6	≤ 0.0001
Mild	27.6	4.77	8	5.29	19.6	5.067	≤ 0.005
Moderate	49.27	4.67	13.64	4.54	35.64	17.38	≤ 0.0001
Severe	69.63	5.5	19.82	12.79	49.82	13.25	≤ 0.0001
Catastrophic	82.75	4.53	23.25	11.16	59.5	15.68	≤ 0.0001

dependent variables revealed significant improvements in all subgroups ($p \leq 0.005$).

Discussion

The treatment of tinnitus is still challenging. With the partial success of conventional medicine, interest has developed in alternative treatments like hypnosis. In this study, we found that all patients had a beneficial response to Ericksonian hypnosis (EH) therapy, with a mean decrease in the THI score of 43.26 points. Ross *et al.*⁸ achieved similar results, with a fall in the Tinnitus Questionnaire score in 90.5% of patients with subacute tinnitus and in 88.3% of those with chronic tinnitus. In Ross's study, subjects were given Ericksonian hypnosis therapy and the results of the treated group were compared to those of the waiting-list controls, showing hypnosis efficacy. Brattberg² reports improvement in subjects who were provided with tapes to help induce self-hypnosis at home. Attias *et al.*⁴ found that self-hypnosis (SH) was clinically superior to Brief Auditory Stimulus (BAS) and a waiting-list control. Seventy-three percent of SH subjects reported disappearance of the tinnitus, as compared with only 24% in the BAS group. Our results match these previous studies. In addition, we found that the THI admission score influences the response of tinnitus sufferers to hypnotherapy. Severe and Catastrophic THI patients had larger THI score reductions than those with Mild and Moderate THI scores. Our study was a longitudinal study evaluating the evolution of the patient population, but there was no control group. It is therefore legitimate to ask whether the posi-

tive effect seen here is really due to hypnosis and not to counselling. However, in 1996, Mason *et al.*⁷ reported that hypnotherapy is better than counselling in achieving a subjective improvement in the effect of tinnitus. In addition, most of our subjects had already tried many other treatments, including counselling, without any satisfactory improvement. It is therefore reasonable to assert that any benefit achieved by the hypnotherapy is a genuine effect and not a simple placebo effect.

Compared to other techniques, hypnosis – and in particular self-hypnosis – has some advantages. It is a non-invasive technique with no side-effects. In addition, patients can practise self-hypnosis anywhere and anytime. This preliminary report indicates that Ericksonian hypnosis is a promising technique. However, even though successes have been reported, we still lack prospective studies with larger groups of patients comparing hypnosis with a control treatment.

Conclusion

This preliminary report of 49 patients indicates that Ericksonian hypnosis is a promising technique for the treatment of tinnitus.

References

1. Pearson MN, Barnes LJ. Objective tinnitus aurium: Report of two cases with good results after hypnosis. *Journal of Philadelphia General Hospital*. 1950;1:134-138.
2. Brattberg G. An alternative method of treating tinnitus: relaxation-hypnotherapy primarily through the home use of a recorded audio cassette. *Int J Clin Exp Hypn*. 1983;31:90-97.
3. Marks NJ, Karl H, Onisiphorou C. A controlled trial of hypnotherapy in tinnitus. *Clin Otolaryngol Allied Sci*. 1985;10:43-46.
4. Attias J, Shemesh Z, Shoham C, Shahar A, Sohmer H. Efficacy of self-hypnosis for tinnitus relief. *Scand Audiol*. 1990;19:245-249.
5. Attias J, Shemesh Z, Sohmer H, Gold S, Shoham C, Faraggi D. Comparison between self-hypnosis, masking and attentiveness for alleviation of chronic tinnitus. *Audiology*. 1993;32:205-212.
6. Mason JD, Rogerson DR. Client-centered hypnotherapy for tinnitus: who is likely to benefit? *Am J Clin Hypn*. 1995;37:294-299.
7. Mason JD, Rogerson DR, Butler JD. Client centred hypnotherapy in the management of tinnitus – is it better than counselling? *J Laryngol Otol*. 1996;110:117-120.
8. Ross UH, Lange O, Unterrainer J, Laszig R. Ericksonian hypnosis in tinnitus therapy: effects of a 28-day inpatient multimodal treatment concept measured by Tinnitus-Questionnaire and Health Survey SF-36. *Eur Arch Otorhinolaryngol*. 2007;264:483-488.
9. Faymonville ME, Fissette J, Mambourg PH, Roediger L, Joris J, Lamy M. Hypnosis as adjunct therapy in conscious sedation for plastic surgery. *Reg Anesth*. 1995;20:145-151.
10. Vincey P, Filippini JF, Ducournau A, *et al.* Comparison : tinnitus pain [in French]. *Rev Laryngol Otol Rhinol*. 1999;120:323-326.
11. Moller AR. Similarities between severe tinnitus and chronic pain. *J Am Acad Audiol*. 2000;11:115-124.
12. Folmer RL, Griest SE, Martin WH. Chronic tinnitus as phantom auditory pain. *Otolaryngol Head Neck Surg*. 2001;124:394-400.
13. Cacace AT. Expanding the biological basis of tinnitus : crossmodal origins and the role of neuroplasticity. *Hear Res*. 2003;175:112-132.
14. Lockwood AH, Salvi RJ, Coad ML, Towsley ML, Wack DS, Murphy BW. The functional neuroanatomy of tinnitus: evidence for limbic system links and neural plasticity. *Neurology*. 1998;50:114-120.

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