## Letters to the Editors

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## The placebo effect of transcutaneous electrical nerve stimulation

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Dear Sirs

In their paper in the June issue of this journal, Aydemir  $et \ al.^1$  assert that, in their series, the application of transcutaneous electrical nerve stimulation improved the quality of life of patients with tinnitus. The study did not, however, control for the substantial placebo effect of this treatment.

This placebo effect has been well demonstrated in other studies in which the reduction of pain has been assessed, including a meta-analysis of low back pain<sup>3</sup> in which no greater effect of real transcutaneous electrical nerve stimulation compared with sham transcutaneous electrical nerve stimulation could be shown. It is also important to note that, in studies of the use of transcutaneous electrical nerve stimulation in tinnitus which used sham transcutaneous electrical nerve stimulation as a placebo, no significant difference was demonstrated between the active and placebo treatments.<sup>4,5</sup>

Owing to the fact that this treatment has a considerable placebo effect, we suggest caution when ascribing the effects seen after application of transcutaneous electrical nerve stimulation to the treatment itself and not to the placebo effect that it generates.

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C-L Bredenkamp\*,

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## References

- 1 Aydemir G, Tezer MS, Borman P, Bodur H, Unal A. Treatment of tinnitus with transcutaneous electrical nerve stimulation improves patients' quality of life. *J Laryngol Otol* 2006;**120**:442–5
- 2 Conn IG, Marshall AH, Yadav SN, Daly JC, Jaffer M. Transcutaneous electrical nerve stimulation following appendicectomy: the placebo effect. *Ann R Coll Surg Engl* 1986;68:191–2

- 3 Brosseau L, Milne S, Robinson V, Marchand S, Shea B, Wells G *et al.* Efficacy of transcutaneous electrical nerve stimulation for the treatment of chronic low back pain: a meta-analysis. *Spine* 2002;**27**:596–603
- 4 Dobie RA, Hoberg KE, Rees TS. Electrical tinnitus suppression: a double-blind crossover study. *Otolaryngol Head Neck Surg* 1986;95:319–23
- 5 Thedinger BS, Karlsen E, Schack SH. Treatment of tinnitus with electrical stimulation: an evaluation of the Audimax Theraband. *Laryngoscope* 1987:97:33-7

Author's reply

Dear Sirs

Pothier and Bredenkamp criticise our study for the lack of placebo control. However, our specific aim was to show that transcutaneous electrical nerve stimulation improves the quality of life of patients with tinnitus, rather than to evaluate its efficacy, which has been well demonstrated previously.<sup>1-4</sup> Although a placebo effect of transcutaneous electrical nerve stimulation cannot be entirely ruled out, our study provides evidence that suppression of this troubling symptom by such treatment is accompanied by improvement in the quality of the patient's life.

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## References

- 1 Steenerson RL, Cronin GW. Treatment of tinnitus with electrical stimulation. *Otolaryngol Head Neck Surg* 1999; 121:511-13
- 2 Cazals Y, Negrevergne M, Aran JM. Electrical stimulation of the cochlea in man: hearing induction and tinnitus suppression. J Am Audiol Soc 1978;3:209–13
- 3 Chouard CH, Meyer B, Maridat D. Transcutaneous electrotherapy for severe tinnitus. *Acta Otolaryngol* 1981;**91**:415– 22
- 4 Engelberg M, Bauer W. Transcutaneous electrical stimulation for tinnitus. *Laryngoscope* 1985;**95**:1167–73