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Auditory attention and tinnitus: the objective determination of tinnitus decompensation

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Background: In previous studies we showed that decompensated tinnitus patients differ significantly from compensated tinnitus subjects in the amplitude as well as the synchronisation stability of late auditory evoked potentials. According to the neurophysiological tinnitus model of Jastreboff and Hazell one major difference between decompensated and compensated tinnitus patients is that decompensated tinnitus patients shift their (subconcious) attention to the tinnitus signal as a results of dyfunctional emotional associations with the tinnitus signal. Therefore we were interested to look at the possibility that this difference in synchronization stability is due to an attentional bias in direction of the tinnitus. If neural synchronization stability could be changed by changing the attentional focus in healthy persons there would be evidence that the difference in neural synchronization stability between compensated and decompensated tinnitus patients is due to an attentional focus to the tinntus signal.

Methods: 10 voluntees entered the study. Late auditory evoked responses were obtained. We delivered 3 pure tones of 40ms each in random order to the right ear. Meanwhile the left ear was presented with music that served as a distractor. Subjects were required to pay attention to a target tone within the pured tones applied for the first 10 minutes. After that the subjects were told to ignore the stimulus. During that procedure single sweeps of late auditory responses were recorded and the synchronization stability was calculated.

Results: Similar to the difference in synchronization stability between compensated and decompensated tinnitus patients synchronization stability changed significantly (Wilcoxon Test) when the attentional focus was drawn away from the target stimulus. This change occured in the time interval between 100 and 200 ms.

Conclusion: Our results give evidence that the difference in synchronisation stability in late auditory evoked potentials (N1, P2) between compensated and decompensated tinnitus patients is due to the attentional focus to the tinnitus signal. As this attentional bias can therefore be shown objectively and in real time, it might be the basis of a therapeutic neurofeedback system.

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QoL perception: Comparison between tinnitus patients and their relatives (Preliminary results)

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Background/aims: Tinnitus is a very common problem and very distressing to some patients. In fact, research shows that the Quality of Life (QoL) of tinnitus patients is worse than that of the general population.

Additionally, the literature indicates that there is divergence between patients and relatives as far as QoL perception is concerned. Tinnitus patients often consider that their relatives don't pay them enough attention and don’t value their tinnitus. This can worsen the tinnitus perception and related complaints. All this can be even worse if the patients don't have social support.

Consequently, the aim of the present study was to compare the QoL perception between patients and their relatives.

Methods: To do so, the QOL of adults with tinnitus complaints is being assessed by themselves and by their relatives or caregivers, who come with them to an ENT clinic. A socio-demographic and clinical questionnaire and the Portuguese version of the SF-36v2 are being used.

Results Currently, we have only 19 pairs of protocols. So far, the results indicate that the QoL perceived by the patients is worse than that reported by their relatives (T test p=0,000 in all SF-36 dimension scales).

Conclusions These results are different from the ones found in the literature. Although the sample is very small, the results suggest it is important to include the patients’ relatives in the therapeutic procedures.

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