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Bachelorprojekt: FDG PET/CT-hjernescanninger: Påvirkning af FDG optaget i occipitallappen ved visuelle og auditoriske indtryk

Abstract

The purpose of this study was to validate whether audiovisual stimulation during resting time, affected the FDG uptake in the occipital lobe in patients undergoing FDG PET/CT-brain scans. It was expected that patients exposed to audiovisual stimulation had a higher uptake of FDG in the occipital lobe, compared to the patients with eyes and ears covered. In addition to this, it was expected that a higher uptake due to audiovisual stimulation, would result in a late diagnosis of Lewy Body Dementia. A late diagnosis could cause the consequence of treating psychotic symptoms with antipsychotic medicine, and therefore worsen the disease.

Method

24 patients who underwent FDG PET/CT-brain scans volunteered to participate in this study. The patients were divided into two groups. 12 patients were exposed to audiovisual stimulation during resting time (group UA), and 12 patients had eyes and ears covered during resting time (group MA). A T-test was used to compare the data obtained in the two groups of patients. Alongside, a visual evaluation of the PET/CT images was made by a neurologist. Furthermore, all patients were asked to describe their comfort during resting time.

Results

Patients in group UA had a lower FDG uptake in the occipital lobe than patients in group MA. No statistical significance was found between the two groups ($p = 0,09$). The visual evaluation of the PET/CT images showed that patients exposed to audiovisual stimulation, was scored higher than the ones who had their eyes and ears covered. Furthermore, the patient comfort evaluation showed that 83% of the patients from group UA and 92% of the patients from group MA, found the resting time comfortable.

Conclusion

It can be concluded that audiovisual stimulation does not necessarily affect the diagnosis of patients with Lewy Body Dementia, even though the neurologist noticed a difference between the two groups. It can be taking into consideration, that a modification during resting time, may increase the patient comfort.