Preserved non-verbal communication in Alzheimer disease : towards the maintenance of a better quality of life

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Preserved non-verbal communication in Alzheimer disease : towards the maintenance of a better quality of life

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Research Abstract

Alzheimer Dementia (AD) is linked to a neuronal degeneration that is to date still uncurable

despite huge research progress. Moreover, the psychological support offered to patients and their family during the period between the diagnosis and the institutionalization is scarce compared to the financial issues raised by their life quality decline during this period. This decline is linked to a progressive social withdrawal that follows the installation of cognitive and behavioral impairments.

The goal of this project is (i) to evidence preserved mechanisms necessary to successful communication in patients with AD at the first stages of the disease and (ii) to start investigating how to rely on these preserved processes in order to improve the quality of the patient's social exchanges while reducing their withdrawal and cognitive decline. Interpersonal interactions heavily rely on the decoding of non-verbal cues that constitutes a basic process for social adaptation. Among others, we will focus on three particular non-verbal cues: emotional prosody, eye contact and odors/fragrances. Concerning emotional prosody and eye contact, the literature suggests that the processing of these cues could be preserved in patients with early AD and be used to improve the quality of both their social exchange, and their cognitive abilities during social interactions. Concerning odor perception, it is well known that olfactory performances during explicit tasks are impaired very early in AD. However, since odors are emotional cues that could implicitly influence the perception of others and emotional autobiographical memory – that is preserved in AD – we assume that they could be used to create an hedonic context so as to improve social interactions too.

As a first step, we wish to confirm the preservation of the implicit processing of emotional prosody, eye contact and odors perception in AD patients. Since the comprehension of some non-verbal social cues seems to be modified with normal aging, the performance of AD patients will be compared with those of elderly participants without cognitive impairment that will be compared to those of healthy young subjects. Secondly, we will explore the impact of these social non-verbal cues on other cognitive functions such as (i) memory, (ii) attentional processing and (iii) self-consciousness.

We hypothesize that despite an overall decrease in performances at the different tasks observed for patients with AD as compared to healthy individuals and in healthy elderly participants as compared to young ones (due to executive functions impaired in normal aging and in AD), emotional prosody, eye contact and social odors effects will be observed in all populations and in all tasks. However all these effects will probably decrease with the AD evolution. Altogether, such results are expected to validate the hypothesis that emotional prosody, eye contact and odors effects could be stimulated in patients with early AD to increase the quality and the efficiency of social exchanges. Brainstorming about how to stimulate these effects in AD patients will be engaged.

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