Natureza do trabalho: Resumo

TÍTULO

FUNCTIONAL NEUROIMAGING IN DYSLEXIA

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RESUMO

Introduction: Dyslexia is a disorder characterized by difficulties in learning to read and write. Neuroimaging studies have contributed profoundly to the understanding of the pathophysiology of this disease, such as finding the underactivation of the left brain hemisphere in dyslexic readers. This revision of the articles using PubMed and SciELO aims to describe the main contributions that studies with fMRI had on the literary development and understanding of this pathology. **Literature review:** Results from a large number of neuroimaging studies support the theory that the impairment in dyslexia is phonological. To find the location and extent of the functional disruption in dyslexia , were used fMRI to compare brain activation in dyslexic and nonimpaired as they performed tasks with demands on phonologic analysis.Tasks involving lower levels of complexity showed underactivation in posterior regions (Wernicke's area, angular gyrus, striate cortex) and overactivation on the anterior region (inferior frontal gyrus). Indicating that dyslexic readers demonstrate a functional disruption in posterior cortex system encompassing traditional language regions and the association cortex. In other studies with dyslexic readers during a higher-level reading comprehension task, found that dyslexic reading ability was associated with reduced activation bilaterally in the parietotemporal cortex. The relationship between reading ability and cortical activation was found in the superior aspect of the left middle temporal gyrus (Wernicke's area), the right inferior parietal lobule, and the left postcentral gyrus. **Conclusion:** As a consequence, posterior systems failure prevents the rapid and automatic recognition of words and development of the right side and from the front as compensatory system allows an accurate reading, but more slowly. These results support the conclusion that the impairment in phonological dyslexia is anatomofunctional and the analysis of neuroimaging reveals that the regions found to be underactivated are largely consistent in both studies of high and low complexity.