2019 - DIAGNOSTIC ACCURACY AND CLINICAL UTILITY OF PET/CT AMYLOID IN MILD COGNITIVE IMPAIRMET

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Introduction: according to the World Alzheimer's Report, the prevalence of dementia stood at 46.8 million cases in 2015 (10.5 million in Europe). Due to the progressive ageing of the population, an increase in the number of cases is expected, reaching 74.7 million in 2030 and 131.5 million by 2050. In Spain, the prevalence of Mild Cognitive Impartment (MCI) in people over 65 years of age has reached a rate of 18.5% (IC95% 17.3-19.7) (February 2014-March 2015). The diagnose of dementia begins with a neuropsychological assessment of the patient using various clinical criteria with the aim of establishing the underlying aetiology and complementary tests, such as the determination of biomarkers in urine, blood or cerebrospinal fluíde (T-tau protein, A?-42 and P-tau) and structural or functional imaging tests (positron emission tomography-PET) in order to rule out reversible causes of dementia and to support clinical diagnoses. PET can be used with neurogeneration markers (18-fluorodeoxyglucose-FDG) or amyloid deposits. The latter have been proposed as a tool that could be useful for the early and in vivo diagnose of Alzheimer?s disease (AD) or other dementias characterized by an increase in amyloid plaques in the early stages of the disease. The first amyloid radiopharmaceutical developed was the Pittsburgh B compound (PiB). Other amyloid radiopharmaceuticals have now become available: 18F-Florbetapir (Amyvid®), 18F-Florbetaben (Neuraceq®) and 18F-Flutemetamol (Vizamyl®), which have a longer half-life than PiB.

Aims: the main objectives of this report are to evaluate the effectiveness and safety of amyloid cerebral PET in the diagnose of cognitive impairment, Alzheimer's disease or other dementias, as well as its impact on the diagnostic and therapeutic management of these patients.

Methods: specific search strategies were designed to identify studies that assess the safety and/or effectiveness of amyloid PET in the diagnose of MCI, AD or other dementias, its economic and organizational impact, patient acceptability and satisfaction, and ethical, social and legal aspects derived from its use. These strategies were performed in March 2018 in the main medical literature databases.

A qualitative synthesis of the evidence was performed using the GRADE system, for which 12 outcomes were selected, classified by clinicians as important or critical, except for two, which were considered of low importance and therefore eliminated from the analysis (complications derived from the use of radiopharmaceuticals and mortality). In order to evaluate the risk of bias of the studies, specific tools were used according to the type of study. The quality of evidence was evaluated using the GRADE system for quantitative studies and the GRADE-CERQual version was used for qualitative studies. Both the extraction of data from the studies and the synthesis and evaluation of the evidence were carried out by two researchers independently and blindly.

Result and conclusion: See pdf below.

DOCUMENTOS RELACIONADOS

English summary

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Spanish full text