

Abstract

Objective: To determine whether early amyloid-PET in the diagnostic process for Alzheimer's Disease is costs-effective compared to no amyloid-PET.

Methods: Patients participated in the Diagnostic and Patient Management Study (DPMS) from the AMYPAD project. AMYPAD-DPMS is a prospective, multicenter, randomized controlled trial. Eligible patients had a baseline cognitive stage of subjective cognitive decline+ (SCD+), Mild cognitive impairment (MCI) or Alzheimer Dementia and were enrolled from seven memory clinics in six countries (the Netherlands, Switzerland (two clinics), Germany, France, Spain and UK). Karolinska Institutet was excluded from the analyses as patient diary data was lacking. For the current study we included n=514 patients who were randomized in Arm 1 (n=264), early Amyloid-PET or Arm 2 (n=250). Amyloid-PET after 8 months from baseline - here considered the 'no-PET' condition. We evaluated quality adjusted life years (QALYs) at six months and health care and societal costs, estimated from patient reported utilities (EQ-5D-5L, visual analogue scale and ICECAP-O) and diaries on costs (healthcare, non-healthcare services and productivity loss).

Results: Participants in Arm 1 and Arm 2 had similar quality of life on all utility measures. Early amyloid-PET in Arm 1 resulted in higher costs six months (difference €1873 [-€63 to €3808]). The incremental cost effectiveness ratio (ICER) was €187000 per QALY.

Conclusion: We found no differences in quality of life between Arm 1 and Arm 2 and higher healthcare costs in Arm 1 compared to Arm 2 at 6 months after baseline. This indicates that the trial-based cost-effectiveness profile is not favorable for Amyloid-PET 6 months after baseline. We are currently exploring whether other subgroups can be defined for which implementation of Amyloid PET is cost-effective.

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