Randomized Controlled Trial JAMA. 2014 Feb 19;311(7):682-91. doi: 10.1001/jama.2014.93.

Effect of citalopram on agitation in Alzheimer disease: the CitAD randomized clinical trial

Anton P Porsteinsson [1], Lea T Drye [2], Bruce G Pollock [3], D P Devanand [4], Constantine Frangakis [2], Zahinoor Ismail [5], Christopher Marano [6], Curtis L Meinert [2], Jacobo E Mintzer [7], Cynthia A Munro [6], Gregory Pelton [8], Peter V Rabins [6], Paul B Rosenberg [6], Lon S Schneider [9], David M Shade [2], Daniel Weintraub [10], Jerome Yesavage [11], Constantine G Lyketsos [6]; CitAD Research Group

Collaborators, Affiliations

PMID: 24549548 PMCID: PMC4086818 DOI: 10.1001/jama.2014.93

Free PMC article

Abstract

Importance: Agitation is common, persistent, and associated with adverse consequences for patients with Alzheimer disease. Pharmacological treatment options, including antipsychotics are not satisfactory.

Objective: The primary objective was to evaluate the efficacy of citalopram for agitation in patients with Alzheimer disease. Key secondary objectives examined effects of citalopram on function, caregiver distress, safety, cognitive safety, and tolerability.

Design, setting, and participants: The Citalopram for Agitation in Alzheimer Disease Study (CitAD) was a randomized, placebo-controlled, double-blind, parallel group trial that enrolled 186 patients with probable Alzheimer disease and clinically significant agitation from 8 academic centers in the United States and Canada from August 2009 to January 2013.

Interventions: Participants (n = 186) were randomized to receive a psychosocial intervention plus either citalopram (n = 94) or placebo (n = 92) for 9 weeks. Dosage began at 10 mg per day with planned titration to 30 mg per day over 3 weeks based on response and tolerability.

Main outcomes and measures: Primary outcome measures were based on scores from the 18-point Neurobehavioral Rating Scale agitation subscale (NBRS-A) and the modified Alzheimer Disease Cooperative Study-Clinical Global Impression of Change (mADCS-CGIC). Other outcomes were based on scores from the Cohen-Mansfield Agitation Inventory (CMAI) and the Neuropsychiatric Inventory (NPI), ability to complete activities of daily living (ADLs), caregiver distress, cognitive safety (based on scores from the 30-point Mini Mental State Examination [MMSE]), and adverse events.

Results: Participants who received citalopram showed significant improvement compared with those who received placebo on both primary outcome measures. The NBRS-A estimated treatment difference at week 9 (citalopram minus placebo) was -0.93 (95% CI, -1.80 to -0.06), P = .04. Results from the mADCS-CGIC showed 40% of citalopram participants having moderate or marked improvement from baseline compared with 26% of placebo recipients, with estimated treatment effect (odds ratio [OR] of being at or better than a given CGIC category) of 2.13 (95% CI, 1.23-3.69), P = .01. Participants who received citalopram showed significant improvement on the CMAI, total NPI, and caregiver distress scores but not on the NPI agitation subscale, ADLs, or in less use of rescue

lorazepam. Worsening of cognition (-1.05 points; 95% CI, -1.97 to -0.13; P = .03) and QT interval prolongation (18.1 ms; 95% CI, 6.1-30.1; P = .01) were seen in the citalopram group.

Conclusions and relevance: Among patients with probable Alzheimer disease and agitation who were receiving psychosocial intervention, the addition of citalopram compared with placebo significantly reduced agitation and caregiver distress; however, cognitive and cardiac adverse effects of citalopram may limit its practical application at the dosage of 30 mg per day.

Trial registration: clinicaltrials.gov Identifier: NCT00898807.

Figures

Figure 1 Participant flow, CONSORT diagram

Figure 2. Neurobehavioral Rating Scale (NBRS) –...

Comment in

Treating dementia and agitation.
Small GW.
JAMA. 2014 Feb 19;311(7):677-8. doi: 10.1001/jama.2014.94.
PMID: 24549545 No abstract available.

Citalopram decreases agitation in the context of Alzheimer's disease, but at doses higher than those commonly prescribed and at the expense of side effects.
Underwood BR, Fox C.
Evid Based Med. 2014 Oct;19(5):181. doi: 10.1136/ebmed-2014-110016. Epub 2014 May 13.
PMID: 24824622 No abstract available.

Related information

Cited in Books
MedGen
PubChem Compound (MeSH Keyword)

LinkOut - more resources

Full Text Sources
Europe PubMed Central
Ovid Technologies, Inc.
PubMed Central
Silverchair Information Systems

Other Literature Sources
The Lens - Patent Citations
scite Smart Citations

Medical
ClinicalTrials.gov