

## Early and late-onset Alzheimer's disease: What are the differences?

Dear Sir,  
Alzheimer's disease is the most common cause of dementia all over the world and its incidence

and prevalence increase with age. About 5% of patients develop symptoms before age 65 and are labelled "patients with early-onset Alzheimer's disease" (EOAD). Most of these patients have the sporadic form of the disease, but 10-15% have a genetic form that is generally inherited as an autosomal dominant fashion. Three genes have been incriminated: Presenilin 1 and 2 and APP gene. A mutation of these genes leads to EOAD. Other candidate genes are also under study. Genetic forms tend to start at age 30 or 40 and have an aggressive course while sporadic EOAD tend to start after age 50 and have, in general, a

temporal profile similar to the “late onset Alzheimer’s disease” (LOAD) one.

It is classical to divide AD symptoms into cognitive (memory loss, disorientation, language difficulties, visuospatial problems, apraxia, etc.) and non-cognitive symptoms (mood swing, delusions, hallucinations, misbehavior, etc). There have been only few papers dealing with the differences in neuropsychiatric symptoms between EOAD and LOAD.<sup>[1-4]</sup> In the study of Toyota *et al.*,<sup>[1]</sup> behavioral and psychological symptoms were relatively fewer in EOAD than LOAD, while there were no differences in cognitive functions or dementia severity between two groups. In the largest and most recent study from Korea,<sup>[4]</sup> apathy was more common in EOAD patients, while delusions were more prevalent in LOAD patients. The differences in neuropsychiatric symptoms between the two groups were most pronounced in patients with the APOE ε4 allele, suggesting that neuropsychiatric symptoms in AD may be influenced by the APOE genotype. In another paper where anxiety was studied more specifically,<sup>[3]</sup> this symptom was associated with higher Mini-Mental State Exam score, and separation from caregivers in patients with EOAD while it was associated with psychotic and activating psychiatric symptoms in those with LOAD.

Important issue in AD is its social impact. EOAD can have devastating effects on the careers, caregivers and family members of patients. Patients who are working lose their ability to perform their jobs competently, and are forced into early retirement. Finances get even tighter if spouses or partners also quit their jobs to become full-time caregivers. This social impact is probably more devastating

in countries like India and other third-world places where the majority of population lives below poverty line and patients with AD are kept in their families.

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