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## Proteomic aspects of Moroccan cases with early onset Alzheimer disease

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**Introduction:** Several recent articles have highlighted the potential involvement of glyceraldehyde-3-phosphate dehydrogenase (GAPDH) in neurodegeneration by reporting the great GAPDH non-glycolytic activity specifically in brains of subjects with Alzheimer's disease (AD). In Morocco, to our knowledge, no proteomic study was carried out in this area.

The aim of this original study is to: Elucidate the critical role of GAPDH in blood of Moroccan FAD cases carrying frameshift mutations in presenilin genes by interacting with  $A\beta$  amyloide aggregation.

**Methods:** Activity assay of GAPDH, Western blot analysis, Dot Blotting and Electron microscopy (EM) were performed on blood of FAD cases carrying mutations in presenilin genes and healthy subjects. Brain specimens, Mutant tau transgenic mice were used as controls.

**Results:** The activity of GAPDH in FAD cases, was significantly decreased relative to healthy controls. Brain specimens of Mutant tau transgenic mice and AD case was unchanged relative to healthy controls. In contrast, the expression of GAPDH in blood of Mutant tau transgenic mice and FAD cases was decreased relative to controls. The Dot blotting examination showed an incressead A $\beta$  accumulation in blood of FAD cases. EM examination showed a significant amyloid fibrils formation both in brain, also in blood of FAD cases.

**Conlusion:** Our proteomic analysis, referring to others studies, report the involvement of GAPDH in AD that may influence the pathogenesis of neurodegenerative disease.

## **Biography**

Nadia El Kadmiri had PhD in Neurogenetics -Laboratory of Medical Genetics and Molecular Pathology. Faculty of Medicine and Pharmacy Casablanca, Morocco. and also had Training at CIBERNED-Investigations Center of Neurodegenerative Diseases- Center of Molecular Biology Universidad Autonoma del Madrid-Spain and Training at the Institut of Medical Genetic-University of Medicine and Surgery - Catholic University, Roma, Italy

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