Midbrain/pons area ratio and clinical features predict the prognosis of Progressive Supranuclear Palsy

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Abstract

Introduction: Progressive Supranuclear Palsy (PSP) is a rare movement disorder with poor prognosis.

The natural history of PSP has been described in a few studies. This retrospective study aims to characterize the natural history of PSP and to find predictors of shorter survival and faster decline of activity of daily living.

Method: All patients recruited fulfilled the movement disorder society (MDS) clinical diagnostic criteria for PSP (MDS-PSP criteria) for probable and possible PSP with median 12 years. Data were obtained including age, gender, date of onset, age at onset (AAO), symptoms reported at first visit and follow-up, date of death and date of institutionalization. Magnetic resonance imaging was collected at the first visit. Endpoints were death and institutionalization. K-M method and Cox proportional hazard model were used to explore factors associated with early death and institutionalization.

Results: 59 patients fulfilled MDS-PSP criteria were enrolled in our study. 19 patients (32.2%) had died and 31 patients (52.5%) had institutionalized by the end of the follow-up. Predictors associated with poorer survival were late-onset PSP and decreased M/P area ratio. Predictors associated with earlier institutionalization were older AAO and decreased M/P area ratio.

Conclusion: Older AAO and decreased M/P area ratio were predictors for earlier death and institutionalization in PSP. The neuroimaging biomarker M/P area ratio was a predictor for prognosis in PSP.

Full-text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed.

However, the manuscript can be downloaded and accessed as a PDF.

Figures

Figure 1

Sagittal T1-weighted MR images show midbrain area and pons area. (A) line 1 and line 2; (B) midbrain area; (C) pons area