Idiopathic Normal Pressure Hydrocephalus (iNPH): our preliminary experience.

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Introduction: The classical triad of Idiopathic Normal pressure Hydrocephalus (iNPH) is based on gait disturbances (94-100%), urinary incontinence (76-83%) and cognitive impairment (78-98%). Cognitive profile of iNPH is the complex result of the impairment of executive functions, working memory, speed processing information, attention, learning and memory, visuo-spatial functions. The presence of ventriculomegaly is essential to make a diagnosis, however 1% of population (> 65 years old) shows ventriculomegaly without symptoms. Our preliminary experience is based on scoring, matching and integration of all assessed aspects of iNPH, through a modern, complex and accurate approach.

Materials and Methods: From 2014 we studied, through our multidisciplinary protocol, 27 patients with suspected iNPH. The mean age was 73.4 (SD± 6.55). Gait and balance indexes were calculated: 10 metres walk, Time up and go, 180 degrees, 360 degrees, Tinetti’s Score. Neuroradiological parameters were calculated: Evan’s Index and Callosal Angle. Neuropsychological assessment included: Mini Mental State Examination (MMSE), Mental Deterioration Battery (MDB), Frontal Assessment Battery (FAB), Stroop Color Word Test, Deux Barrage Test, Grooved Pegboard, Rey-Osterrieth Complex Figure. 10 patients were selected to ventriculo-peritoneal shunt. 6 patients underwent surgery. The assessment was performed during postoperatively, at 1,3, 6 and 12 months. The mean follow up was 12 months.

Results and Conclusions: Our preliminary results showed an improvement in all patients underwent surgery. The neurological impairment in gait speed and different grades of balance improved. The neuropsychological setting improved in all assessments. Neuroradiological indexes showed a slight improvement. Despite the small cohort of patients, these data highlight the validity and efficacy of our quantitative and qualitative protocol in terms of selection of patients to ventriculo-peritoneal shunt and differential diagnosis from other neurodegenerative disorders and suggest us that iNPH is a complex syndrome, not yet fully understood, requiring a continous, meticoulous and on-going analysis.