



**CATARATA, CÓRNEA, RETINA MÉDICA, GLAUCOMA E  
OFTALMOLOGIA PEDIÁTRICA**

17:00 | 19:00 SALA NEPTUNO

Coordenador: António Melo

Mesa: Maria do Céu Brochado Pinto, José Pedro Silva, Cristina Tavares

17:32

**RFP9- OPHTHALMOLOGICAL CHARACTERIZATION OF PATIENTS WITH NORMAL PRESSURE  
HYDROCEPHALUS (NPH) USING SD-OCT**

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**Background:** Normal Pressure Hydrocephalus (NPH) characterized by an indicative slowly progressive onset of gait disturbances, dementia and urinary incontinence combined with normal cerebrospinal fluid (CSF) pressure is considered a rare and yet under-diagnosed disease. Early treatment with CSF-shunting can reverse symptoms and stop disease progression. Other diseases that show overlapping symptoms of gait disturbances and dementia similar are much more difficult to treat and often irreversible. Further diagnostic methods for diagnosing NPH are therefore of strong clinical relevance.

**Objective:** To ophthalmologically characterize NPH patients using SD-OCT and enhanced depth imaging (EDI).

**Methods:** 22 eyes of 12 patients displaying the necessary neurological and neuroradiological characteristics as well as 26 eyes of 13 healthy, age-matched controls underwent full ophthalmological examination. 5 of 12 included patients had undergone beneficial CSF-shunting. Studied EDI SD-OCT parameters included macular retinal thickness, subfoveal choroid thickness (RNFL), peripapillary nerve fiber layer thickness and peripapillary choroid thickness.

**Results:** Measurements of peripapillary choroidal thickness in the non-shunted patient group were significantly lower compared to healthy controls. NPH patients that had been submitted to CSF-shunting showed a significantly higher peripapillary choroidal thickness compared to non-shunted HPN patients and to controls. Measurements of subfoveal choroidal thickness showed the same pattern. The RNFL of included NPH patients could not be considered atrophic and mean RNFL as well as macular retinal thickness across patients and healthy controls showed no statistically significant differences.

**Conclusion:** In addition to neurological and neuroradiological exams, the examination of peripapillary and subfoveal choroid thickness by non-invasive SD-OCT can be a further diagnostic step to aid in the challenging diagnosis of NPH. Furthermore this study shows the CSF-shunt-responsiveness of the choroid layer for the first time. This may ultimately enable SD-OCT based treatment-response evaluation for CSF-shunt devices used in a wide range of therapies.