PSYCHOTIC SYMPTOMS IN HYDROCEPHALUS

a case report

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INTRODUCTION

Wide scientific evidence confirms association between hydrocephalus and psychiatric symptoms.

Although the condition typically presents with the progressive 'triad' of cognitive impairment, gait disturbance and urinary incontinence, it has been described that rarely, hydrocephalus can manifest in the form of predominant psychotic symptoms (Chatziioannidis et al., 2013).

MATERIALS AND METHODS

Clinical case presentation and systematic review of existing literature on MEDLINE.

Psychiatry department

A 42-year old female presents at the emergency department (Centro Hospitalar Médio Tejo, Tomar) with:

- behavioural changes
- depressed mood
- auditory hallucinations
- persecutory and self-referral delusions
- mild cognitive impairment

Unremarkable previous psychiatric history.

At neurological examination: **nistagmus and mild gait changes.**

While awaiting for the results of diagnostic work-up, the patient was initiated on risperidone, olanzapine and venlafaxine.

Total resolution of psychotic symptoms by day 2 of therapy.

The head CT-scan, done by day 5 of therapy, revealed (see Figure 1):

*“There is moderate dilatation of the lateral ventricles translating **hydrocephalus**, with ectasia mainly of the frontal and occipitoparietal horns bilaterally, with small foci of trans-epididymal edema in parental topography. Slight erasure of some cortical grooves in frontoparietal topography (...)*”

Figure 1 – Images of the head CT-scan showing signs of hydrocephalus

Neurosurgery department

She was then transferred to Neurosurgery ward (Hospital São José, Lisboa)

An head-MRI was done to help therapeutic decision, and revealed:

*“(...) **supratentorial hydrocephalus associated with ventricular dysmorphia and periventricular leukomalacia (...)**”*

The patient was diagnosed with triventricular hydrocephalus.

Because there wasn't active symptoms by that time, a conservative approach was chosen and the psychiatric medication introduced at psychiatric ward was kept.

The patient showed complete remission of psychiatric symptoms and, after discharge from the neurosurgery service, outpatient follow-up was maintained at psychiatric and neurosurgery consultations.

She remained stable with the established therapy with no further psychotic episodes.

DISCUSSION AND CONCLUSIONS

Hydrocephalus is a abnormal accumulation of cerebrospinal fluid in the cerebral ventricles that leads to a dilatation and subsequent damage of the adjacent parenchyma. Although precise anatomical correlates have not yet been established, certain cerebral regions have been implicated in the pathogenesis of hydrocephalic psychosis – frontal cortex, mesencephalic and diencephalic structures of the brain (Chatziioannidis et al., 2013).

While a conservative approach was chosen for the treatment of hydrocephalus, our patient was initiated on second generation antipsychotic showing marked and fast improvement of her psychiatric symptomatology.

The atypical presentation of hydrocephalus in the mentioned case underlines the **necessity to thoroughly investigate the possible presence of an underlying organic factor in those patients who present with predominant psychotic symptoms.** Furthermore, the patient's improvement indicates that **hydrocephalic psychosis could respond to second generation antipsychotics.**