"THE GREAT IMITATOR":

How **NEUROSYPHILIS** remains a **diagnostic and therapeutic** challenge in **PSYCHIATRY** – two case-reports.

José Pedro Mota¹, Joana Pinheiro¹

¹ Centro Hospitalar do Tâmega e Sousa, Department of Psychiatry and Mental Health - Penafiel, Portugal.

OBJECTIVE

These case-reports highlight the **diagnostic and therapeutic challenge** faced by the great diversity of psychiatric symptomatology that accompanies **sudden manifestations of cognitive and behavioral changes**, especially in those **without previous psychopathological history**. We also intend to review the literature regarding the pharmacological therapeutic options of the **psychiatric symptoms** of neurosyphilis, **since there are no treatment guidelines concerning this subject**.

BACKGROUND

NEUROSYPHILIS infection of the CNS caused by the spirochete *Treponema pallidum*.

Cerebral involvement may occur in late (or tertiary) syphilis, usually **18 to 25 years** after the primary infection.

"THE GREAT IMITATOR" = A challenging diagnosis because its multiple **neurological** and **psychiatric** presentations

PSYCHOSIS | PERSONALITY AND BEHAVIOURAL CHANGES | DEPRESSION | MANIA | DEMENTIA

Despite the **increased incidence** of the tertiary form of syphilis associated with an **increased prevalence of HIV co-infection**, neurosyphilis remains an **uncommon finding** in immunocompetent patients.

If left untreated, **DEATH** usually occurs in 4-5 years.

Although it is considered a form of **REVERSIBLE DEMENTIA**, it is still frequent today that the patient **does not recover fully** his superior cortical functions, maintaining sequelae of **cognitive and behavioural impairment**.

CASE-REPORTS

IDENTIFICATION:

(BOTH ADMITTED TO THE PSYCHIATRY'S DEPARTMENT ON JANUARY 2019)

2 MEN
60 / 62 YEARS OLD

Widowed / Divorced

Both unemployed and of a low socioeconomic status

Only one of them with significant medical history: **atrial fibrillation**

Heavy drinkers and smokers

NO PREVIOUS PSYCHIATRIC HISTORY OR MEDICATION

CLINICAL REPORT ON ADMISSION:

"...recent **behavioural change**, increased **aggressiveness** towards their relatives, **incoherent speech**, **persecutory delusion**, **lack of insight**..."

COMPULSORY ADMISSION*

*according to Portuguese Mental Health Law

INITIAL INTERPRETATIONS = reactive depressive disorder / confusional syndrome secondary to urinary tract infection.

CLINICAL FINDINGS

ARGYLL-ROBERTSON PUPILS

HIGHLY SPECIFIC - small bilateral pupils, accommodation reflex is intact but the photomotor reflex is compromised.

DELUSIONAL THINKING

PSYCHOMOTOR AGITATION

CONFABULATION

DISORIENTATION IN SPACE-TIME

EVALUATION

CSF collection through a LUMBAR PUNCTURE

VDRL + (but a negative result can't exclude infection)

T. pallidum SEROLOGIC TESTS
FTA-ABs/TPHA/EIA

MRI / CT SCAN

Focal **ATROPHY** / Bilateral **ENLARGEMENT** of the ventricles
Multifocal involvement of **SMALLER** caliber branches.

ANGIOGRAPHY

MANAGEMENT

RISPERIDONE 6mg/day

Symptoms control was made with the antipsychotic risperidone 3mg + lorazepam 2.5mg, both twice-a-day.

FOLLOW-UP

On a 3-month-evaluation, both patients maintained **lack of insight**, the same **confabulation** mentioned during the hospitalization period and **residual persecutory delusion**, although they were **calmer, oriented and without aggressive behavior**. On a 6-month-evaluation, they remained stabilized, so **risperidone** was reduced to 3 mg/day.

Aqueous PENICILLIN G
14 days-treatment

DISCUSSION/CONCLUSION

These events often fit into the diagnosis of **Rapidly Progressive Dementia**, which may be due to different causes, so that the psychiatrist must assume a **high degree of suspicion** and use the more **targeted complementary diagnostic tests** for a possible neurosyphilis.

One of the patients had a risk factor for thromboembolic events, so a **vascular cause** for RPD was excluded. Given poor family support, alcohol abuse and poor nutrition, **thiamine deficiency** was excluded, which may cause Wernicke encephalopathy, ophthalmoparesis, ataxia and cognitive impairment.

Positive **CSF VDRL** results contribute to the diagnostic confirmation of neurosyphilis, although **TPHA** and **FTA-ABs** are more **specific** and **sensitive** tests, indicated when there is compatible symptomatology and negative non-treponemal tests. Neuroimaging exams have no specific findings.

Standard treatment of neurosyphilis is **intravenous Penicillin G for 10-14 days**. Although there are no guidelines for the treatment of psychiatric symptoms, some authors advocate the use of **antipsychotics**, namely **haloperidol 20mg/day**, **quetiapine 300-800mg/day** or **risperidone 3-6mg/day** (better tolerability). If a good response to therapy is found, treatment with these agents should be continued for up to 3-6 months before a dose reduction is considered.

Due to irreversible neuronal loss, success of treatment depends on early diagnosis. The utilization of psychotropic medication in combination with appropriate antibiotic therapy appears to have been effective in reducing symptoms in the preceding cases.