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Case Report

Beneath a Behavioral Change: A Case Report

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Abstract

When approaching symptoms suggestive of cognitive decline or dementia, it is important to rule out possible conditions that can lead to the emergence of psychological/behavioral changes. Herein, we present the case of a 69-year old man, whose wife complained of sudden behavior and memory changes. He was diagnosed with syphilis and treated with 3 doses of penicillin. We report this case to highlight the importance of considering syphilis in the differential diagnosis of a fast onset cognitive decline. It also demonstrates the value of Family Physician proximity to the different members of a family, often a determining factor in establishing a diagnostic hypothesis, especially when complaints are not spontaneously exposed by the patient.

Keywords: Syphilis (MeSH); Neurosyphilis (MeSH); Cognitive dysfunction (MeSH)

Introduction

When dealing with neuropsychiatric symptoms of late onset in the elderly (anxiety, irritability, agitation, depression, apathy, disinhibition, sensory perception changes), it is important to keep in mind the wide variety of possible differential diagnoses, including infectious causes [1].

Syphilis is a sexually transmitted infection, caused by the spirochete Treponema pallidum. Nowadays, it still represents a relevant public health problem, despite the notable decrease in its incidence with the introduction of penicillin [2].

In Portugal, according to data from the 2015-2016 National Serological Survey, 2,4% of residents aged 18 and over have antibodies to Treponema pallidum, which means that they have or had syphilis. These data are more expressive in males and as age increases, a fact that can be explained by the high incidence of syphilis in Portugal in the 60s and 70s [2].

Syphilis is characterized by several clinical stages, with different symptoms (primary, secondary and tertiary stages), which alternate with long periods of latency. The latent stage is further divided into recent and late latent. Regarding patients with late latent syphilis (infected for more than a year), about half will have benign late syphilis, one quarter will develop cardiovascular disease and the remaining neurological disease (neurosyphilis) [3].

This case aims to emphasize the role of Family Physician (FP) in the differential diagnosis of behavioral changes/dementia, sometimes facilitated, as we demonstrate, by the proximity to other family members.

Case Presentation

We present the case of a 69-year-old caucasian male, retired, married, with three children, belonging to a nuclear family, in Duvall life cycle stage VIII, with past medical hystory of asymptomatic cholelithiasis, chronic alcoholism (treated in a rehab center) and insomnia, medicated with lorazepam 1mg.

The consultation at our Family Health Unit, scheduled by the patient, was preceded by a telephone contact from his wife, who was concerned about her husband's verbal aggression in the last month, denying any known precipitating factor She also conveyed her suspicions that her husband was having extra-marital relationships, as he did not seem to have any sexual interest in her.

The patient came alone, complaining of feeling tired legs and swelling of the lower limbs. When asked about his emotional/ psychological state, he referred deterioration in his antegrade memory, which he related to a car accident that occurred a month ago. He denied depressed mood and recent changes in sleep or appetite. He denied self or hetero physical aggressiveness, confessing however a more aggressive speech with his wife. He admitted having extra-marital unprotected sex for several years. Consumption of alcohol or other substances were denied. Objectively he was hemodynamically stable, without cutaneous/genital lesions which he denied having previously; he had stigmas of venous insufficiency; mental state and neurological examination were normal, with a mini mental state examination of 28.

An analytical study was requested, including serological markers (HIV, hepatitis B and C and syphilis) and other parameters for the initial assessment of dementia. We also requested a cranial computed tomography (CT). Regarding his initial complaints, we recommended compression stockings and a venotropic. Counseling on risk and prevention of sexually transmitted infections was carried out.

We posteriorly contacted his wife, advising her to discuss the matter with her children and to present at the competent authorities in the event of aggressiveness escalation.

In a posterior consultation, the patient maintained his mnesic complaints, which were interfering with his daily life activities. Analytically, he presented a non-treponemal test (VDRL) positive for 1:4 dilutions. Treponemic test (in this case FTA/ABS) was requested, which turned out to be positive. Patient's wife had a negative VDRL. The requested CT revealed atheromatous calcifications of the arterial vessels at cranial base and accentuation of cortical grooves in cerebral convexity.

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We referred him to an Infectious Diseases consultation. By telephone contact we talked to the Infecciologist due to the suspicion of neurosyphilis and he recommended treatment with 4.2 million units of injected penicillin weekly for three weeks.

The serial VDRL, used to follow the course of illness, including the response to therapy, showed a change of one dilution (from 1:4 to 1:2).

The patient is already being followed in Infectious Diseases consultation but lumbar puncture for cerebrospinal fluid evaluation has not yet been scheduled.

Meanwhile he divorced his wife and following that began to experience anxiety difficult to control. Sertraline 50 mg was started and we referenced him to a Psychiatric consultation.

His perception of cognitive dysfunction did not improve over this assessment period.

Commentary

Neurosyphilis has a wide variety of clinical manifestations that can mimic many other Central Nervous System diseases (atherosclerotic cerebrovascular disease, psychiatric pathology, dementia or other infectious meningitis). Parenchymal involvement occurs in late neurosyphilis, usually many years (18 to 25) after the primary infection. In early stages there is a gradual loss of memory, decreased intellectual capacity, personality and behavior changes. Structurally, there is brain atrophy and thickening of the meninges [4].

Clinical suspicion is the key to diagnosis. In this case, new onset aggressiveness and memory loss associated with risky sexual behaviors were suggestive. After confirmatory serological tests - non-treponemic test followed by a treponemic test -, the analysis of the cerebrospinal fluid would determine the definitive diagnosis, although only one third of patients with neurosyphilis present alterations [3,4].

The later the neurosyphilis is treated, the greater the cognitive and behavioral sequels. Precocious treatment is fundamental to stop the dementia process [4].

The patient was referenced to an Infecciology appointment, in order to perform a lumbar puncture, since the possibility of neurosyphilis could not be excluded.

Treatment monitoring should be performed serially by clinical and quantitative serological assessment (nontreponemal serological tests) at six, 12 and 24 months after treatment initiation [3].

This case points out the privileged knowledge FP has of patients personality and common behavior. The management of risk behaviors within the couple is also FP responsibility, which is why patient's wife performed VDRL. Finally, FP must work with the couple on the impact that such a diagnosis can generate in their relationship.

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