Uncommon cause of progressive infectious paraplegia: Syphilitic gums

Lamiae Bouimetarhan, Othman Ayouche, Bellamlih Habib, Meriem Fikri, Mohammed Jiddane, Moulay Rachid El Hassani

ABSTRACT

Introduction: Syphilitic gums of the central nervous system are rare; the intra-spinal localization of then is periodically described. Moreover, since the advent of antibiotherapy, the occurrence of tertiary syphilis has become rare and its diagnosis has become more complex, that has made it difficult to study the later forms of treponemal medullary infections. However, it is predominant in HIV-infected populations.

Case Report: A 56-year-old man, who had an earlier history of treated neurosyphilis, was admitted with the complaint of walking difficulty. MRI showed a heterogeneous signal abnormalities of the spinal cord of D9 to D12, in favor of syphilitic gumma. It seemed useful to review the MRI aspects of the syphilitic gum and its semiology as well as its important differentials.

Conclusion: Syphilitic gums are rare pathological occurrences in central nervous system. The advent of magnetic resonance imaging (MRI) diagnostic techniques has led to an increased sensitivity for asymptomatic disease and diagnosis that is more frequent. The reference treatment remained penicillin associated with corticotherapy. The rarity of this disease and the nonspecific radiological findings, often makes it difficult to detect this disease.

Keywords: Magnetic resonance imaging, Myelitis, Progressive paraplegia, Syphilis

How to cite this article

doi: 10.5348/101027Z01LB2019CR

INTRODUCTION

Syphilitic gums of the central nervous system are rare in occurrence, while their intra-spinal localization is periodically described [1, 2]. From this case observed in our unit, it seemed useful to review the MRI aspects of the syphilitic gum and its semiology as well as its important differentials.

CASE REPORT

A 56-year-old man was admitted with the complaint of difficulty in walking. He had a history of neurosyphilis treated with penicillin G with a good evolution. After two years, he noticed backache in the dorsal region with tingling and burning sensations in his legs. The evolution was characterized by a gradual spread up of the tingling from his feet to his lower trunk. On examination, the gait was unsteady. There was severe weakness in both legs. Tone was abnormal and spastic in both legs. The tendon reflexes were present in the arms. There was sensory impairment to pin prick and to light touch below L2 dermatome on both sides, as well as bladder dysfunction. There was also eye dryness and
no pupillary reaction to light or accommodation with ordinary clinical tests.

The cerebrospinal fluid (CSF) indicated no TPHA/VDRL immunologic response. The TPHA / VDRL was also positive blood tests. HIV and hepatitis B and C blood tests were negative. Many biological tests had been carried out and found to be normal among: TSH, T3, T4, anti-TSH receptors, folate, vitamin B12, vitamin D, and anti-nuclear anti bodies. There was no acceleration of blood sedimentation.

MRI showed a heterogeneous signal abnormality of the spinal cord of D9 to D12 that extended on to 53 mm, in low signal T1, high signal T2 enhanced after contrast administration (Figure 1). It was associated with a dilatation of the medullary canal (Figure 2). We remarked that the alignment of the posterior wall, the height and the signal of the vertebral bodies were respected. There was no soft tissues inflammation.

The patient was transferred to the neurology department for anti-syphilitic treatment, which included a 15-day course of IV penicillin G (24 million U/24h) associated with an hydrocortisone regimen, followed by a 3-week course of intramuscular injections of benzathine penicillin 2.4 million U, once per week. There was a good evolution in the six months follow-up.

DISCUSSION

Syphilis is a chronic infectious disease caused by Treponema pallidum bacteria. It is often acquired by sexual contact with another infected individual [3]. It progresses, if untreated, through primarily, secondary, and tertiary stages, that is at the origin of the early and late stage dichotomy: early (primary and secondary) which affect the mesodermal structures and late forms (tertiary) the encephalic parenchyma [3].

Although approximately one-third of patients with early syphilis show treponemal invasion of the cerebrospinal fluid, symptomatic neurosyphilis, especially syphilitic myelitis, has become extremely rare [1].

There are three types of tertiary syphilis – late benign or gummatous, meningovascular, and neurosyphilis. Patient presented with sensory levels, lower extremity weakness, pyramidal signs, and variable degrees of bladder and bowel dysfunction, but also with polyradiculopathy. Symptoms have been related to meningomyelitis, as well as cord compression from gums.

In our patient, clinical presentation, cord swelling, and the complete reversibility of all pathologic findings suggest meningo-myelitis.

Syphilitic myelitis has to be distinguished from other causes of myelopathy such as vascular (ischemia, spinal arteriovenous malformation), postinfectious demyelination, or acute disseminated encephalomyelitis, which have encephalopathy as a common denominator.

There is no neuro syphilis typical finding on imaging MRI findings. Syphilitic myelitis are rarely reported and usually medullary involvement consists essentially of myelitis which presents on MRI in the form of a hyperintensity in T2 SE with contrast enhancement in SE T1 testifying to inflammation or ischemia [1, 4].

The high-signal lesion on T2-weighted images of the spinal cord parenchyma, confined to the central portion and extending over multiple levels, has been similarly described [4].

The distribution of contrast enhancements located within T2 hyper intense lesions in our patient differs from previous reports observing abnormal enhancement in the superficial parts of spinal cord parenchyma (candle
guttering appearance) and reversed signal intensities on T2-weighted images and gadolinium-enhanced T1-weighted images (flip-flop sign) [1, 4, 5].

Chilver-stainer et al., pointed out that MRI findings in syphilitic meningomyelitis are nonspecific and may among others mimic viral myelitides (HIV, HTLV1, herpes) [5].

CSF should be examined in patients with documented syphilis in the following settings: neurologic or ocular signs, HIV-positive individuals with late latent syphilis or syphilis of unknown duration, in tertiary syphilis, as well as in the case of treatment failure [5].

In general, CNS syphilitic gums regress rapidly after treatment with penicillin [6]. Few cases of response to corticosteroid treatment alone have been reported [7]. This may explain the clinical recovery in our patient during his second hospitalization, which associated the two. Hydrocortisone was added to prevent cord edema, and Jarisch-Herxheimer reactions. Treatment efficacy is assessed on MRI and cerebrospinal liquid serological tests [6]. Although there was no initial immunologic CSF response. We initiated a 6 months follow-ups based essentially on the regression of MRI findings as well as serum TPHA/VDRL. The six months follow up was preconized by Workoswki et al. with treatment failure defined as either a fourfold increase in non-treponemal titers, the failure to reach a fourfold decline of an initial titer within 12–24 months, or new signs or symptoms of syphilis [8].

CONCLUSION

Syphilitic gums are rare pathological occurences in central nervous system localization. The advent of MRI diagnostic imaging techniques has led to an increased sensitivity for asymptomatic disease and diagnosis that is more frequent. The reference treatment remain penicillin associated with corticotherapy. The rarity of this disease and the nonspecific radiological findings, often makes it difficult to detect this silence disease.

REFERENCES


**********

Author Contributions

Lamiae Bouimetarhan – Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Othman Ayouche – Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Bellamlih Habib – Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Mohammed Jiddane – Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Moulay Rachid El Hassani – Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

The corresponding author is the guarantor of submission.
Source of Support
None.

Consent Statement
Written informed consent was obtained from the patient for publication of this study.

Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.

Copyright
© 2019 Lamiae Bouimetarhan et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.
Submit your manuscripts at
www.edoriumjournals.com