CORRESPONDENCE

Cerebrospinal fluid tests for neurosyphilis diagnosis

Francesco Drago,[1,2] Giulia Ciccarese ,[1] Aurora Parodi[1,2]

[1]Dermatologic Clinic, Ospedale Policlinico San Martino Istituto di Ricovero e Cura a Carattere Scientifico per l'Oncologia, Genova, Liguria, Italy
[2]Section of Dermatology, Department of Health Sciences (DISSAL), University of Genoa, Genoa, Italy

Correspondence to
Dr Giulia Ciccarese, Dermatologic Clinic, Ospedale Policlinico San Martino Istituto di Ricovero e Cura a Carattere Scientifico per l'Oncologia, Genova 16132, Italy; giuliaciccarese@libero.it

Published Online First 4 May 2020

► http://dx.doi.org/10.1136/sextrans-2020-054512
► http://dx.doi.org/10.1136/sextrans-2019-054198

To cite: Drago F, Ciccarese G, Parodi A. *Sex Transm Infect* 2020;**96**:387.

Dear Editor,

We agree with Shiva *et al*[1] about the relevance of assessing *Treponema pallidum* particle agglutination (TPPA) titres in the cerebrospinal fluid (CSF) samples of patients with suspected neurosyphilis. For many years, we have been using *T. pallidum* haemagglutination test (TPHA) both in diagnosing neurosyphilis and in the follow-up of our patients after treatment. It would have been interesting to know the trend of CSF-TPPA titres over time in Shiva's patients. We consider as serological cure in syphilis a fourfold decline in the initial TPHA titres within 12 months after therapy and a titre ≥1:640 in CSF as specific for neurosyphilis diagnosis. At 12 months, 92% of our patients were serologically cured. The rate of concordance with venereal disease research laboratory (VDRL) is about 90% and the use of TPHA is crucial in patients in whom non-treponemal tests are negative. CSF treponemal tests can be useful in identifying asymptomatic neurosyphilis where VDRL sensitivity is only 10%. In our experience, TPHA-CSF dilution cut-off of ≥1:640 has a high diagnostic specificity in diagnosing neurosyphilis. The concordance with VDRL-CSF positivity is 100%. There is no clear consensus on the diagnosis of neurosyphilis and it continues to be a problem relying on various combinations of reactive CSF tests results, alterations of cell count or proteins in the CSF or clinical manifestations.[2] Further studies with a well established criteria for neurosyphilis are needed to better validate the utility of these and other markers. Among them is the evaluation of CXCL-13 levels,[3] a B-cell-attracting chemokine, which increases in patients with neurosyphilis and declines after therapy. Remarkably, this chemokine increases also in asymptomatic neurosyphilis and can be used to confirm or deny a neurosyphilis in patients with CSF pleocytosis, as happens in patients with HIV infection or in patients with nonreactive CSF-VDRL (50%–70% of neurosyphilis).[3]

Handling editor Anna Maria Geretti

Contributors The authors equally contributed to the work.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; internally peer reviewed.

ORCID iD
Giulia Ciccarese http://orcid.org/0000-0001-8363-0195

REFERENCES

1 Shiva F, Goldmeier D, Lane P, *et al*. Cerebrospinal fluid TPPA titres in the diagnosis of neurosyphilis. *Sex Transm Infect* 2020;96:388–9.
2 Drago F, Merlo G, Ciccarese G, *et al*. Changes in neurosyphilis presentation: a survey on 286 patients. *J Eur Acad Dermatol Venereol* 2016;30:1886–900.
3 Marra CM, Tantalo LC, Sahi SK, *et al*. C XCL13 as a cerebrospinal fluid marker for neurosyphilis in HIV-infected patients with syphilis. *Sex Transm Dis* 2010;37:283–7.