Fondazione Policlinico Universitario A. Gemelli
Università Cattolica del Sacro Cuore

XLVIII CONGRESSO NAZIONALE
14-17 OTTOBRE 2017 – NAPOLI

Toxoplasma encephalitis in a young immunocompetent man with ischemic stroke as initial presentation

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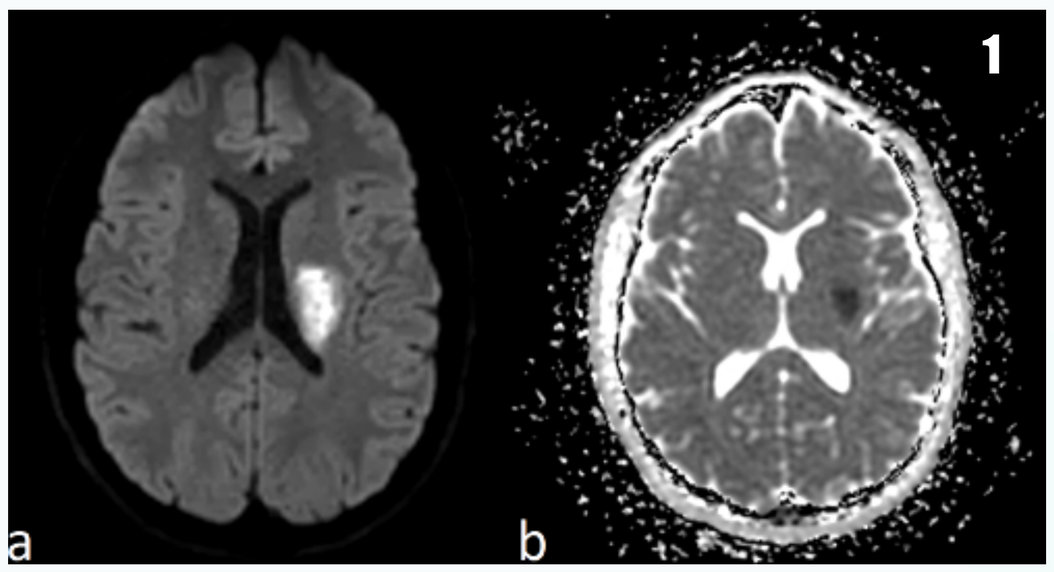
Introduction

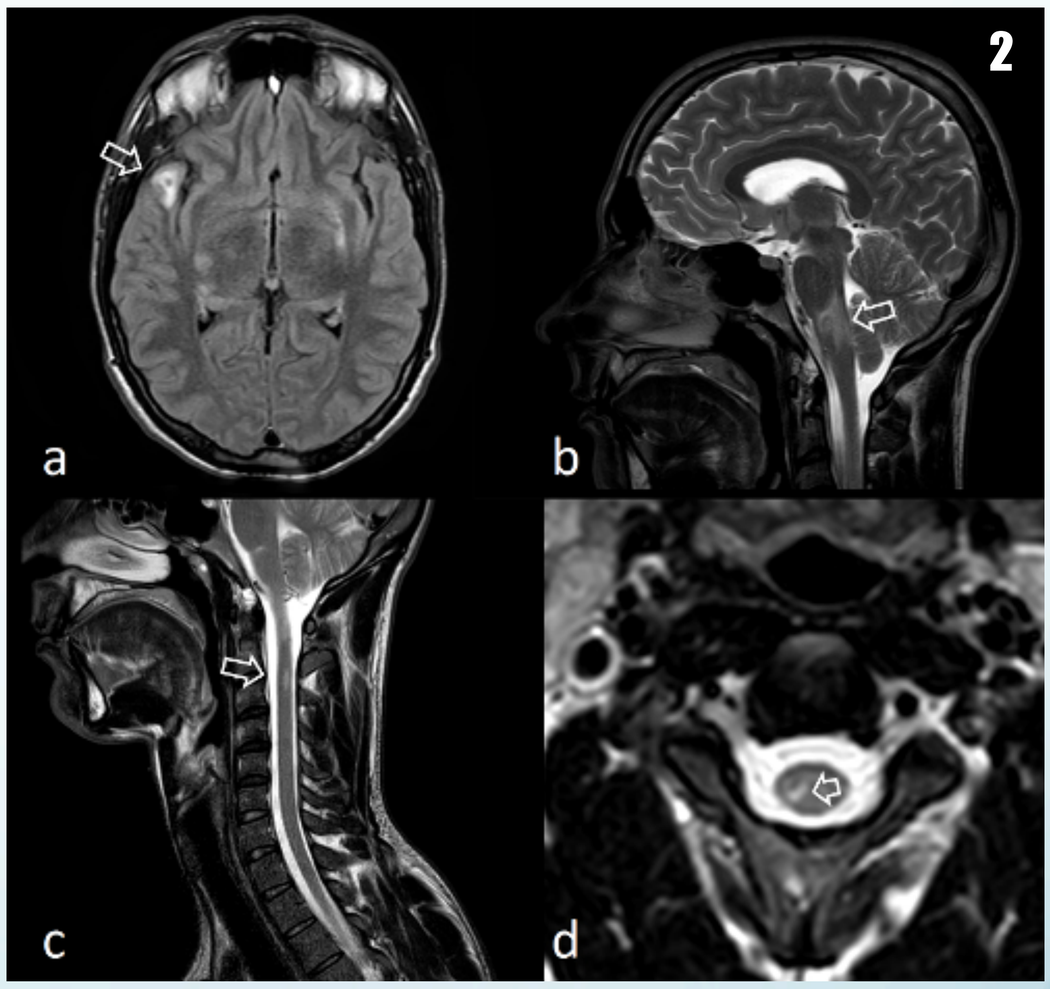
Toxoplasmosis is a worldwide spread infection caused by *T. gondii*. In immunocompetent hosts, acute acquired *T. gondii* infection is usually asymptomatic or oligosymptomatic with self-limited course. In immunocompromised patients, it's possible a reactivation of a latent infection, which typically involves CNS, characteristically in the form of multiple abscess-like round processes with ring enhancement.
While neurotoxoplasmosis is well documented in immunocompromised individuals, it is rare and often undetected in immunocompetent hosts.
Here we describe a case of encephalomyelitis associated with acute *T. gondii* infection in an immunocompetent young man, with an ischemic stroke as initial presentation.

Case Report

M, 25 year-old, acute right FBC hemiparesis

- No remarkable past medical history (no trauma, fever, vaccination or drug abuse)
- Emergency brain MRI (fig. 1): acute ischemic lesion in left corona radiata
  - ➢ Thrombolysis with partial benefit
- Laboratory: mild eosinophilia (0.59 x 10^9/L), high serum IgE (1073 UI/mL)
- Epiaortic US, TT/TE echocardiogram, Holter EKG: normal
- Brain-spine MRI performed 7 days later (fig. 2): new supratentorial, infratentorial and spinal lesions, hyperinthense on T2-w/FLAIR images, without diffusion restriction, some of them with slight CE. Peculiar the right temporal lesion (fig. 2a), showing a central hypointhense region, surrounded by an hyperinthense area, with mild peripheral enhancement
- CSF examination: proteins 46 mg/dl, cells 28/mmc, normal glucose content; no oligoclonal IgG bands
- Microbiology:
  - serological testing and CSF PCR for neurotropic viruses negative (including serology for HIV-1/2)
  - serology for *T. gondii*: serum IgM 8.68 S/CO, serum IgG>250 UI/mL with low IgG avidity (0.206), suggestive of a recent infection; PCR for *T. gondii* on CSF negative
- Treatment: anti-Toxo therapy (sulfadiazine and pyrimethamine plus leucovorin) + high dose IV steroids
- Follow-up MRI performed 5 days after beginning therapy: partial regression of CNS lesions





Conclusions

In this case, clinical course and neuroimaging suggest that CNS involvement is induced with different etiological mechanisms:

- ➢ the **direct action of the microorganism** (suggested by the peculiar signal features of the temporal lesion)
- ➢ a **vasculitic pathogenesis** (consistent with the stroke presentation at the onset)
- ➢ an **inflammatory, post-infectious pathogenesis** (suggested by the distribution of the lesions, the contrast enhancement and the regression after steroid treatment)

References

- Montoya JG, Liesenfeld O. **Toxoplasmosis**. *Lancet*. 2004 Jun 12;363(9425):1965-76.
- Vastava PB, Pradhan S, Jha S, Prasad KN, Kumar S, Gupta RK**. MRI features of toxoplasma encephalitis in the immunocompetent host: a report of two cases.** *Neuroradiology*. 2002 Oct;44(10):834-8.
- García-García C, Castillo-Álvarez F, Azcona-Gutiérrez JM, Herraiz MJ, Ibarra V, Oteo JA**. Spinal cord toxoplasmosis in human immunodeficiency virus infection/acquired immunodeficiency syndrome.** *Infect Dis* (Lond). 2015 May;47(5):277-82.