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Case report

Neurotoxoplasmosis mimicking primary brain malignancy

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ABSTRACT

Toxoplasma gondii infection is an uncommon and potentially life-threatening condition in immunocompromised patients in the setting of solid organ transplantation. We present the case of cerebral toxoplasmosis which presented as a solitary intracranial space-occupying lesion in a patient who received a combined kidney and pancreas transplant more than twenty years ago. Initially, the lesion was considered as a primary brain malignancy based on brain imaging but surprisingly the brain biopsy led to the correct diagnosis.

A 71-year-old man with a 21-year history of end stage kidney disease secondary to type 1 diabetes mellitus, status post combined kidney and pancreas transplantation on mycophenolate mofetil, tacrolimus and prednisone, presented with worsening left-sided arm and leg weakness for three weeks. He denied other symptoms, including tingling, numbness, fevers, chills, and changes in vision.

Vital signs were stable (HR: 92 bpm, BP: 134/88 mm Hg, RR: 16 bpm, Temp: 37.1 °C). Examination was notable for 4/5 left upper and lower extremity strength. He was attentive, alert, and oriented to person, place, and time. Magnetic Resonance Imaging of the brain discovered a right parieto-temporal mass lesion with surrounding edema concerning for a malignancy (Image A, Red arrow). However, subsequent Positron Emission Tomography/Computed Tomography of chest, abdomen, and pelvis showed no fluorodeoxyglucose-positive lesions.

Five days later, his mental status acutely deteriorated with decreased attentiveness and disorientation. Repeat Magnetic Resonance Imaging revealed an acute right temporal lobe infarct with transtentorial herniation, requiring urgent resection of the mass lesion. Histopathologic examination of the mass showed *toxoplasma* cystozoites (Image B, White arrow) and tachyzoites. Human Immunodeficiency Virus serology was negative.

Toxoplasma IgG antibody titers were positive. Immunosuppression was discontinued, pyrimethamine-sulfadiazine was initiated, and he was discharged 2 weeks later. Toxoplasma gondii infection is a potentially life-threatening complication associated with solid organ transplantation. This infection can result either from transmission from a Toxoplasma seropositive donor or from reactivation of latent infection in a recipient. Routine use of trimethoprim/sulfamethoxazole for *pneumocystis jirovecii* prophylaxis may prevent this complication, but infection can develop after prophylaxis discontinuation.

In immunocompromised patients, cerebral toxoplasmosis may present with a solitary brain lesion that may closely mimic brain malignancy. It is important to maintain a high index of clinical suspicion and institute early and appropriate treatment to prevent a poor outcome.

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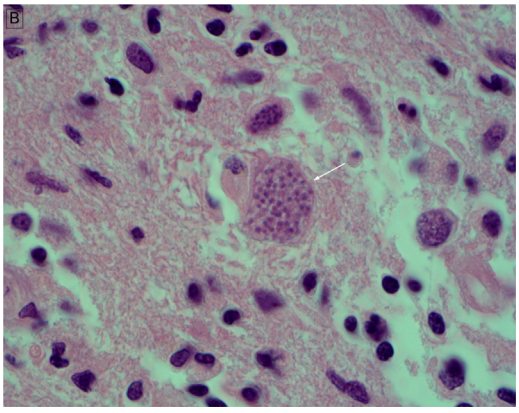

Conflicts of interest

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Consent

Patient is deceased. There is no patient identifying information in this article.

Author contribution

Both authors contributed to the conception, drafting, and revision of the article.