



TERAPIE ANTICOAGULANTI E GESTIONE DELLE
COMPLICANZE

MANAGEMENT OF ANTICOAGULANT THERAPY IN IMMUNOTHROMBOSIS SECONDARY TO TOXOPLASMA INFECTION

A. Grembiale¹, A. Sabena¹, G. Dettori¹, C. Grendene¹, S. Grazioli¹, S. Venturini²

¹SOC Medicina Interna 2 - Azienda Sanitaria Friuli Occidentale - Pordenone, Italy; ²SSD Malattie Infettive - Azienda Sanitaria Friuli Occidentale - Pordenone, Italy

Introduction. Immunothrombosis can limit pathogen dissemination and enhance antimicrobial activity at the microvascular level in a physiological way. When dysregulated, it can progress to pathological thrombosis (thromboinflammation). Infections can trigger venous thromboembolism (VTE) through crosstalk between inflammatory and coagulation pathways, a mechanism described mainly in viral illnesses but also reported in bacterial and parasitic infections. VTE during acute *Toxoplasma* infection is extremely rare and documented only in isolated case reports. The management of anticoagulant therapy in this condition can be very challenging because of potential drug interactions.

Case Report. A 63-year-old male with psoriatic arthritis, receiving adalimumab and MTX therapy, presented with fever, pneumonia, and generalized seizures. Head CT demonstrated a right parietal hemorrhagic infarction, while brain MRI identified cerebral venous sinus (CVS) thrombosis involving both transverse and sigmoid sinuses with extension to the internal jugular veins. Contrast-enhanced CT revealed severe consolidation in the right lung, multisite splanchnic thrombosis—including splenic and superior mesenteric veins—and microinfarcts suggestive of embolic phenomena across multiple organs. DVT, endocarditis, and sinusitis were excluded; autoimmune panel and thrombophilia screening was negative, complement was normal. The patient was initiated on UFH, subsequently switched to warfarin. Whole-body PET/CT detected multiple hypermetabolic lymphadenopathies at thoracic and external iliac stations. Serological testing for *Toxoplasma gondii* indicated recent primary infection and PCR confirmed its presence in blood. Due to CNS and visceral organ involvement, oral trimethoprim-sul-

famethoxazole was prescribed for six weeks. During treatment, the patient reported nausea and vomiting, so the therapy was modified by prescribing pyrimethamine-sulfadiazine. After approximately 10 days, the patient was admitted to the Nephrology ward because of AKI caused by bilateral nephritis and ureteral lithiasis, both adverse effects of the treatment. During anti-toxoplasma treatment, extreme INR variability was observed, with over-anticoagulation (INR >10); therefore, warfarin was discontinued and calcium heparin was continued. Upon improvement of renal function, calcium heparin was replaced with tinzaparin. Because PCR testing for *Toxoplasma* on plasma remained positive 4 months after diagnosis, and as immunosuppressive therapy had to be resumed, the infectious disease specialist initiated treatment with azithromycin and clindamycin for 6 weeks. At the end of antimicrobial treatment, anticoagulant therapy was modified by switching from tinzaparin to apixaban 5 mg twice daily. After 8 months of anticoagulant treatment, the patient underwent repeat brain MRI, which showed persistent partial thrombosis of the transverse sinus and sigmoid sinus. During treatment with both tinzaparin and apixaban, no hemorrhagic adverse events or thrombotic recurrences were observed.

Conclusions. Specific anti-*Toxoplasma* therapy is indicated in cases of CNS involvement or severe visceral disease, particularly in immunocompromised patients. The current recommended treatment for CVS thrombosis is AVK; however, because of the extreme INR variability related to drug interactions, it was preferred to continue LMWH until discontinuation of antimicrobial therapy, followed by a switch to apixaban to improve patient compliance.