Abstract for Case Report

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# Title: Dual Threat: Concurrent Cerebral Toxoplasmosis and Inferior Wall STEMI in a 45-Year-Old Patient with Advanced HIV

Introduction: In patients with advanced HIV, cerebral toxoplasmosis is a serious opportunistic illness that frequently manifests as neurological impairments. Rarely, cerebral toxoplasmosis and acute myocardial infarction—especially ST-Elevation myocardial infarction (STEMI)—occur together, posing difficult diagnostic and treatment challenges.

Case Presentation: A 45-year-old man with a history of diabetes mellitus, hypertension, dyslipidemia, and HIV presented to the emergency department in acute disorientation and nonresponsiveness. Neurological evaluation revealed left-sided abnormalities.

CT brain imaging showed hyperdensity in the left thalamus, suggestive of previously treated toxoplasmosis, and new hypodensity in the right cerebellar hemisphere with surrounding edema. Additionally, an ECG indicated ST-elevation in the inferior leads, consistent with an inferior wall STEMI.

The patient was evaluated for thrombolysis; however, due to the high risk of bleeding with alteplase, thrombolysis was not recommended. Instead, a percutaneous coronary intervention (PCI) was advised. Coronary angiography revealed double-vessel disease with spontaneous reperfusion of the right coronary artery (RCA), so no PCI was performed. The patient was treated medically with double antiplatelet therapy and referred back to Sarawak General Hospital with outpatient cardiology follow-up. The stable left thalamus hyperdensity and evolving posterior circulation infarct on subsequent CECT brain scans suggested prior toxoplasmosis treatment. The patient was discharged with follow-up appointments for neuromedical and rehabilitative care.

Discussion: The concurrent presentation of cerebral toxoplasmosis and acute myocardial infarction in this patient with advanced HIV infection underscores the complexity of managing multiple comorbidities in such individuals. The immunocompromised state predisposes patients to opportunistic infections like toxoplasmosis, while chronic inflammation and endothelial dysfunction increase the risk of cardiovascular events. Timely diagnosis and management of both conditions are crucial.

Conclusion: This case illustrates the complex interplay between opportunistic infections and cardiovascular complications in HIV patients. It underscores the importance of comprehensive, multidisciplinary management approaches to address the multifaceted medical needs of these patients. Further studies are warranted to develop optimized protocols for such complex clinical scenarios.

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