An eye-catching case: Invasive Klebsiella syndrome with right eye endogenous endophthalmitis, bacteraemia and multiple septic emboli

Mohammad Ismim Putera Nawawi[1], Faiz Ali[2], Aleza Omar[3], Ainal Adlin Naffi[3]

[1]Department of Microbiology and Immunology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Cheras, Kuala Lumpur, Malaysia, [2]Department of Diagnostic Laboratory Services, Hospital Canselor Tuanku Muhriz, Cheras, Kuala Lumpur, Malaysia, [3]Ophthalmology Department of, Hospital Canselor Tuanku Muhriz, Cheras, Kuala Lumpur, Malaysia

ABSTRACT

Introduction: Invasive Klebsiella syndrome (IKS) is primarily caused by hypervirulent *Klebsiella pneumoniae* (hvKp), which is characterised by metastatic infection to various organs. We hereby report a case of IKS presented with endogenous endophthalmitis complicated with bacteraemia, brain abscess, and pulmonary septic emboli. **Case Presentation:** A 68-year-old non-diabetic man presented with severe right eye pain, redness and blurring of vision for 3 days. Initial evaluation showed right eye endogenous endophthalmitis with a choroidal abscess. Vitreous tapping fluid and blood culture grew *Klebsiella pneumoniae*, with positive "string test". CT orbit/brain showed features suggestive of cerebral abscess, and CT TAP showed multiple pulmonary septic emboli. Additionally, no sonographic evidence of hepatic abscess or cardiac vegetation. Consequently, right eye evisceration was done. The patient was responding with empirical intravitreal vancomycin and ceftazidime, then intravenous ceftriaxone, oral and eyedrops ciprofloxacin. Repeated CT brain showed a resolved cerebral abscess. Hepatic involvement was not evident. Generally, up to 80-90% of cases have hepatic liver abscess as a primary focus of infection, followed by renal or lung. The hypermucoviscosity phenotype is related to K1 and K2 capsular serotypes and virulence genes such as mucoviscosity-associated gene A (*mag*A) and regulator of mucoid phenotype A (*rmp*A). Interestingly, such strains are susceptible to most antibiotics, as evident in this case. Intravenous ceftriaxone is recommended due to good vitreous and CSF penetration. **Conclusion:** This atypical case highlights the severity of IKS and the need for early diagnosis, source control, and appropriate antibiotic regimes to improve patient outcomes.