REVERSAL OF DABIGATRAN ACTIVITY WITH IDARUCIZUMAB IN A PATIENT WITH TRAUMATIC INTRACRANIAL BLEED

Lee Zhen-Vin 1, Muhammad Imran bin Abdul Hafidz 1, Chee Kok Han 1

1Cardiology Unit, Department of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

INTRODUCTION: Idarucizumab, a monoclonal antibody fragment, has recently been made available as a reversal agent specifically for dabigatran which is a direct thrombin inhibitor. Idarucizumab is to be used for patients on dabigatran who either have severe bleeding or need to undergo urgent surgery or invasive procedures.

CASE DESCRIPTION: A 68 year old man presented with recurrent seizures. Patient had history of recurrent stroke associated with post stroke seizures and was on dabigatran for atrial fibrillation. Premorbidly, patient was able to ambulate without support although he had expressive dysphasia. While having recurrent seizures, patient has multiple episodes of falls in which there was trauma to the head. Seizures were aborted with intravenous (IV) diazepam but patient subsequently developed pulseless electrical activity requiring intubation and cardiopulmonary resuscitation for 8 minutes. A non-contrasted computed tomography (CT) scan of the brain revealed acute right frontal lobe intraparenchymal bleed measuring 3.0 x 1.9 centimetres. Neurosurgical Team had decided to treat the patient conservatively. Although patient’s last dose of dabigatran was 14 hours ago and activated partial thromboplastin time (aPTT) ratio was 1.5, decision was made to administer 5 grams of IV idarucizumab to reverse the effects of dabigatran as it was deemed that dabigatran activity may perpetuate intracranial bleeding. Repeat aPTT ratio at 6 and 24 hours after idarucizumab administration was completely normal. Patient’s condition however continued to deteriorate and patient was too ill to undergo a repeat CT brain. Patient succumbed to death 6 days later due to a combination of intracranial bleed, sepsis and multiorgan failure.

CONCLUSION: Intracranial bleeding itself is associated with a high risk of mortality. Although the administration of idarucizumab in this patient did not result in a favourable outcome in terms of survival, we believe that idarucizumab plays a pivotal role in the management of dabigatran related bleeding as it completely reverses dabigatran activity as evidenced in this case by normalisation of aPTT ratio (qualitative test) and allows us to focus on other aspects of patient care. Dabigatran level ideally should have been measured by a quantitative test but quantitative tests are not available in our hospital.