Tozinameran

S

Cerebral venous thrombosis: 3 case reports

In a report, three patients (1 man, 2 women) aged 54–62 years were described, who developed cerebral venous thrombosis (CVT) following administration of tozinameran for COVID-19 vaccination [*routes and dosages not stated*].

Case 1: The 54-year-old man, who had well controlled hyperlipidaemia, developed severe vomiting and headache 24 hours after the second dose of tozinameran [BNT162b2 mRNA vaccine] followed by acute left hemiparesis two days later. Brain CT showed a large right temporoparietal lobe intraparenchymal haemorrhage with midline shift and uncal herniation The man underwent decompressive craniectomy. CT venogram confirmed dural venous sinus thrombosis and CT angiogram excluded underlying vascular malformations. Complete blood count, thrombophilia screen and coagulation profile were unremarkable. A diagnosis of CVT attributed to tozinameran was made. He received anticoagulation with heparin [unfractionated heparin], which was switched to unspecified low molecular weight heparins and was on rehabilitation.

Case 2: The 62-year-old woman, who had a history of well-controlled hypertension, presented with vomiting and headache nine days after the second dose of tozinameran [BNT162b2 mRNA COVID-19 vaccine]. Her coagulation panel and complete blood count were unremarkable. On admission, both brain CT and CT venogram confirmed an acute right cerebral bleed involving the occipital and temporal lobes associated with subarachnoid haemorrhage secondary to thrombosed sigmoid and right transverse sinus veins. A diagnosis of CVT attributed to tozinameran was made. Heparin [unfractionated heparin] was initiated with therapeutic monitoring. On day 4 of admission, GCS reduced and repeat CT revealed increased size of haemorrhagic right cerebral venous infarcts with development of early hydrocephalus and worsening of mass effect. The woman required decompressive craniectomy, which was complicated by intracranial empyema and required drainage. Post operatively, heparin was resumed, which was later switched to unspecified low molecular weight heparins. Whole body CT performed three weeks into admission, showed right upper lobe segmental artery pulmonary embolism, right common iliac vein thrombi and left internal iliac artery. A left iliopsoas haematoma was also detected. Despite the haematoma, heparin was re-intiated due to increased thrombotic burden, which was switched to unspecified low molecular weight heparins with bridging to warfarin one week later. She was on rehabilitation.

Case 3: The 60-year-old woman, who had family history of thrombosis and medical history of hyperlipidaemia, diabetes mellitus and hypertension, presented eight days after the second dose of tozinameran [BNT162b2 mRNA COVID-19 vaccine] for right ataxic hemiparesis. Both venogram and CT brain confirmed extensive dural venous thrombosis and venous infarct in the bilateral perirolandic gyri, which was complicated by bilateral subarachnoid hemorrhage and acute right occipital lobe intraparenchymal haematoma. The woman received treatment with unspecified low molecular weight heparins followed by bridging to warfarin therapy. Her low anti thrombin III during the acute illness could possibly be attributed to extensive thrombosis. A final diagnosis of CVT attributed to tozinameran was made. She made an uneventful recovery and was discharged.

Fan BE, et al. Cerebral venous thrombosis post BNT162b2 mRNA SARS-CoV-2 vaccination: A black swan event. American Journal of Hematology 96: E357-E361, No. 9, Sep 2021. Available from: URL: http://doi.org/10.1002/ajh.26272

803593129