

Tozinameran

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Cardioembolic stroke: case report

An 83-year-old woman developed cardioembolic stroke following first and second dose of tozinameran for immunization against COVID-19.

The woman had a medical history of persistent atrial fibrillation for 10 years been treated with rivaroxaban without symptomatic ischemic strokes and osteoarthritis. She received her first dose of tozinameran [BNT162b2; *route and dosage not stated*] (manufactured by Pfizer). However, after 3 days, she developed right hemiplegia and motor aphasia. She was admitted. Blood analyses demonstrated elevated thrombin-antithrombin complex (TAT) and D-dimer. Magnetic resonance imaging (MRI) revealed proximal M1 segment of the left middle cerebral artery (MCA) was occluded; however, the ischemic area was localized to only a part of the left insular cortex and corona radiata. She received recombinant tissue plasminogen activator therapy and underwent mechanical thrombectomy. Following this, she was successfully recanalized about 3.5 hours after onset. She recovered almost fully and was discharged. Her rivaroxaban was switched to edoxaban. After 3 weeks of first dose, she received her second dose of tozinameran. However, after 3 days, she again developed left hemiplegia and left hemispatial neglect and was admitted. Blood analyses again showed elevated TAT and D-dimer levels. MRI demonstrated occlusion of the right MCA proximal M1 segment, but the ischemic areas were found only in a part of the right insular cortex, caudate and corona radiata. Based on the above findings, cardioembolic stroke secondary to tozinameran was diagnosed.

The woman again underwent mechanical thrombectomy; however, it could not be resumed due to the hard thrombus. MRI re-examination demonstrated the ischemic area had spread to almost the entire right MCA area and her symptoms persisted. Her blood coagulation and fibrinolysis system markers almost normalised after 2 weeks of onset of the second stroke. Her repeated cardioembolic strokes were attributed to tozinameran.

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