



## *The Medical* **Bulletin**

### In Neurology

**Treatments in Ischemic Stroke:** Current and Future European Neurology 2022 August 2, : 1-18, Despite progress made over the last 30 years, stroke is still a leading cause of disability and mortality; likewise, its burden is expected to increase over the next decades, due to population growth and aging. The development of drugs with better safety-efficacy profiles as well as strategies able to improve ischemic stroke management from the pre-hospital setting is needed.

The pathophysiology of ischemic stroke involves multiple pathways resulting in cerebral artery obstruction and brain tissue ischemia. To date, the only approved drug for acute ischemic stroke is intravenous thrombolytic alteplase. Intravenous thrombolysis (IVT) can be administered alone or in combination with endovascular treatment (EVT) with mechanical thrombectomy, in case of large vessel occlusion and generally within 6 h from symptoms onset. The risk of potential bleeding complications, especially symptomatic intracerebral hemorrhage, is one of the reasons for the reluctance to administer IVT. Tenecteplase is a promising alternative fibrinolytic agent, having a better safety profile than alteplase. Moreover, recent evidences have allowed an extension of the IVT ± EVT time window for patients with unknown onset time and for those with a known onset time thanks to the new "tissue-window" approach guided by advanced neuroimaging techniques, which also helps in collateral circulation estimation.

Regarding primary-secondary prevention, researchers are focused on improving the efficacy of antithrombotic drugs with a "hemostasis-sparing" approach. Neuroprotective agents are also under development, particularly stem cells. The COVID-19 pandemic has critically stressed global healthcare systems, with collateral damage resulting in access delivery of only emergency care, such as ischemic stroke. Regarding telemedicine, it has had a minor role in acute stroke management, and with the onset of COVID-19, this role will most likely be adopted to increase access and delivery in stroke assessment, but also in the follow-up.

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