Embolic Stroke of Undetermined Source (ESUS): from research to clinical practice

Charlotte Cordonnier, MD, PhD
charlotte.cordonnier@univ-lille.fr
Professor of Neurology
Lille University Hospital
France

Disclosures:
- member of the steering committee of the OCEANIC-Stroke trial (Bayer)
- participated to scientific sessions sponsored by Boehringer-Ingelheim
- principal investigator of clinical trials funded by the French ministry of health
- associate editor of the Stroke journal (AHA stroke)

Learning objectives

- To know what the definition of ESUS is
- To plan investigations to reach the ESUS diagnosis
- To know the results of the main randomized clinical trials dedicated to ESUS
- To understand the limitations and pitfalls of the ESUS concept in clinical practice
- To develop a systematic and multidisciplinary approach for patients who meets ESUS criteria
- To tailor secondary prevention

Key messages

- ESUS accounts for roughly 20% of ischemic strokes
- It is important to perform an extensive work-up
- The annual rate of stroke recurrence is around 4% per year
- Direct oral anticoagulants for all ESUS is not the answer
- Search for the cause and keep searching for it
- Personalized treatment plan and refined phenotyping needed

References

- Hart RG, et al. Embolic strokes of undetermines source: the case for a lew clinical construct. Lancet Neurol 2014
- Diener HC, et al. Review and update of the concept of ESUS. Nat Rev Neurol 2022.
- Perera KS et al. ESUS: prevalence and patient features in the ESUS Global registry. Int J Stroke 2016
- Sposato L et al. ESUS: new data and new controversies on cardiac monitoring and anticoagulation. Neurology 2024
- Arturo N et al. Direct oral anticoagulants compared to aspirin for ESUS: aa comprehensive meta-analysis. J Stroke Cerebrovasc Dis. 2025