Half-time Review Abstract
Trine Apostolaki-Hansson MD, PhD student

Prognosis in intracerebral hemorrhage related to antithrombotic use - Observational studies based on the Swedish stroke register (Riksstroke)

Background
Intracerebral hemorrhage (ICH) accounts for 10 – 15% of all stroke cases and is associated with a high risk of death and disability. Previous studies regarding clinical outcome following Vitamin-K antagonist (VKA)-ICH compared to Non-vitamin K oral anticoagulant (NOAC)-ICH show conflicting results. Furthermore, there are heterogenous opinions regarding prognosis following antiplatelet (AP)-ICH compared to non-antithrombotic ICH.

Aim/Methods
We performed observational studies based on data from Riksstroke, Sweden’s quality stroke register, to investigate 90-day prognosis in patients with antithrombotic related ICH. Descriptive analysis as well as simple and multivariable Cox regression analyses were applied. Study I: Comparison of outcome following NOAC-ICH (n = 300) versus VKA-ICH (n = 2183). Study II: To investigate the effect of oral anticoagulant (OAC) reversal treatment (n = 369) on 90-day outcome following OAC-ICH compared to patients withheld reversal therapy (n = 203). Study III: A comparison of survival and functional outcome between OAC-ICH, AP-ICH, and non-antithrombotic related ICH (n =13 291).

Results
Study I: Similar 90-day mortality and functional outcomes were found comparing NOAC-ICH and VKA-ICH. Age, level of consciousness (LOC), and previous stroke were associated with a higher death rate. Study II: Patients withheld reversal therapy following OAC-ICH had higher death rates and worse functional outcome at 90 days compared to patients receiving reversal treatment. Study III: Patients with OAC- and AP-ICH had higher death rates and worse functional outcome compared to patients without antithrombotic treatment.

Significance
There is no data in Sweden regarding patient characteristics and clinical outcome following ICH with or without antithrombotic treatment, and no current data regarding the effect of OAC reversal therapy. Our results add to the understanding of prognosis following ICH.

Publications
- Apostolaki-Hansson T, Ullberg T, Pihlsgård M, Norrving B, Petersson J. Reversal treatment in oral anticoagulant-related intracerebral hemorrhage. (Frontiers in neurology)
- Apostolaki-Hansson T, Ullberg T, Pihlsgård M, Norrving B, Petersson J. Prognosis in intracerebral hemorrhage related to antithrombotic use. (Stroke)