Predictors of Outcome in Acute Stroke Patients: Are They Reliable and Potentially Useful?

In the 4th series of Editorials on outstanding original papers published as “*Highlights in this issue*” [1–3], we focus on observations made in acute stroke patients admitted to our hospitals; these observations are based on their history, clinical findings or lab investigations that are not regularly assessed or considered to be relevant for the acute event. Although their importance as reliable biomarkers or useful predictors/moderators of early/late outcomes is still not very well known or although they have not been systematically studied in the past, they may influence future clinical trials of different types and lead to newly designed stroke research from different parts of the world.

We start with an excellent paper by Giede-Jeppe et al. [4] from Germany. This paper deals with stroke-associated inflammation and immunosuppression that had been increasingly recognized as factors of influence in the early period after stroke onset and might provide a better selection of patients who benefit from specially designed treatment. In patients with ischemic stroke, more recent publications failed to provide convincing evidence for early antibiotic therapies; however, patients with spontaneous ICH who have a worse overall prognosis may benefit after personalized identification by means of new bio-

markers and hence may share a better outcome if specially treated. The authors analysed 855 consecutive ICH patients: those with neutrophil-to-lymphocyte ratios (NLRs) ≥ 4.6 showed larger hematoma volumes and worse NIHSS scores on admission associated with more frequent unfavorable outcomes and hence represent a potential group that could be investigated further.

The second paper is a beautiful example of new translational stroke research focusing on potentially treatable targets to prevent ischemic blood-brain barrier (BBB) damage. Chu et al. [5] from Shanghai, China investigated the effect of injected Apelin-13 on ischemic BBB injury in wild type mice MCAO experiments and found that Apelin-13 highly increased Aquaporin-4 expression as well as reduced neurological scores (functional outcome) and infarct volume (morphological outcome).

The final paper comes from Aarhus, Denmark, submitted by Blauenfeldt et al. [6]. They aimed to test a potentially neuroprotective effect under the umbrella of “remote ischemic preconditioning.” Patients treated as additions to early thrombolysis showed a decreased 24-h infarct growth and final infarct size based on the level of physical activity performed one week prior to stroke.

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References

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