

Publication

A factor score reflecting cognitive functioning in patients from the Swiss Atrial Fibrillation Cohort Study (Swiss-AF)

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Author(s) Springer, Anne; Monsch, Andreas U.; Dutilh, Gilles; Coslovsky, Michael; Kievit, Rogier A.; Bonati, Leo H.; Conen, David; Aeschbacher, Stefanie; Beer, Juerg H.; Schwenkglenks, Matthias; Fischer, Urs; Meyer-Zuern, Christine S.; Conte, Giulio; Moutzouri, Elisavet; Moschovitis, Giorgio; Kühne, Michael; Osswald, Stefan; Swiss-AF Study Investigators,

Author(s) at UniBasel Schwenkglenks, Matthias ; Monsch, Andreas U.;

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Atrial fibrillation (AF), the most common sustained cardiac arrhythmia, is considered as risk factor for the development of mild cognitive impairment (MCI) and dementia. However, dynamics of cognitive functions are subtle, and neurocognitive assessments largely differ in detecting these changes. We aimed to develop and evaluate a score which represents the common aspects of the cognitive functions measured by validated tests (i.e., "general cognitive construct"), while reducing overlap between tests and be more sensitive to identify changes in overall cognitive functioning.; We developed the CoCo (cognitive construct) score to reflect the cognitive performance obtained by all items of four neurocognitive assessments (Montreal Cognitive Assessment (MoCA); Trail Making Test; Semantic Fluency, animals; Digital Symbol Substitution Test). The sample comprised 2,415 AF patients from the Swiss Atrial Fibrillation Cohort Study (Swiss-AF), 87% aged at least 65 years. Psychometric statistics were calculated for two cognitive measures based on (i) the full set of items from the neurocognitive test battery administered in the Swiss-AF study (i.e., CoCo item set) and (ii) the items from the widely used MoCA test. For the Co-Co item set, a factor score was derived based on a principal component analysis, and its measurement properties were analyzed.; Both the MoCA item set and the full neurocognitive test battery revealed good psychometric properties, especially the full battery. A one-factor model with good model fit and performance across time and groups was identified and used to generate the CoCo score, reflecting for each patient the common cognitive skill performance measured across the full neurocognitive test battery. The CoCo score showed larger effect sizes compared to the MoCA score in relation to relevant clinical variables.; The derived factor score allows summarizing AF patients' cognitive performance as a single score. Using this score in the Swiss-AF project increases measurement sensitivity and decreases the number of statistical tests needed, which will be helpful in future studies addressing how AF affects the risk of developing cognitive impairment. What do you want to do ? New mail Copy

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