Unruptured intracranial aneurysm treatment score

see also PHASES score.

The unruptured intracranial aneurysm treatment score (UIATS) was published in April 2015 as a multidisciplinary consensus regarding treatment of unruptured intracranial aneurysms (UIA).

Etminan et al. endeavored to develop an unruptured intracranial aneurysm treatment score (UIATS) model that includes and quantifies key factors involved in clinical decision-making in the management of UIAs and to assess agreement for this model among specialists in Unruptured intracranial aneurysm (UIA) management and research.

An international multidisciplinary (neurosurgery, neuroradiology, neurology, clinical epidemiology) group of 69 specialists was convened to develop and validate the UIATS model using a Delphi consensus. For internal (39 panel members involved in identification of relevant features) and external validation (30 independent external reviewers), 30 selected UIA cases were used to analyze agreement with UIATS management recommendations based on a 5-point Likert scale (5 indicating strong agreement). Interrater agreement (IRA) was assessed with standardized coefficients of dispersion ($v^*$) ($v^*$ = 0 indicating excellent agreement and $v^*$ = 1 indicating poor agreement).

The UIATS accounts for 29 key factors in UIA management. Agreement with UIATS (mean Likert scores) was 4.2 (95% confidence interval [CI] 4.1-4.3) per reviewer for both reviewer cohorts; agreement per case was 4.3 (95% CI 4.1-4.4) for panel members and 4.5 (95% CI 4.3-4.6) for external reviewers ($p = 0.017$). Mean Likert scores were 4.2 (95% CI 4.1-4.3) for interventional reviewers ($n = 56$) and 4.1 (95% CI 3.9-4.4) for noninterventional reviewers ($n = 12$) ($p = 0.290$). Overall IRA ($v^*$) for both cohorts was 0.026 (95% CI 0.019-0.033).

This novel UIA decision guidance study captures an excellent consensus among highly informed individuals on UIA management, irrespective of their underlying specialty. Clinicians can use the UIATS as a comprehensive mechanism for indicating how a large group of specialists might manage an individual patient with a UIA \(^1\)
A tertiary center with focus on vascular neurosurgery, aimed to investigate whether there treatment
decision-making in patients with UIA has been in accordance with the published UIATS. A retrospective analysis of patients admitted to the center with UIA was performed. UIATS was applied to all identified UIA. Three decision groups were defined: (a) UIATS favoring treatment, (b) UIATS favoring observation, and © UIATS inconclusive. These results were then compared to our clinical decisions. Spearman's rank-order correlation (ρ) was run to determine the relationship between the UIATS and our clinical decisions. Cases of discrepancies between UIATS and our clinical decisions were then examined for complications, defined as peri-procedural adverse events in treated aneurysms, or aneurysm rupture in untreated aneurysms. Ninety-three patients with 147 UIA were included. A total of 118/147 (80.3%) UIA were treated. In 70/118 (59.3%), UIATS favored treatment, in 18/118 (15.3%), it was inconclusive, and in 30/118 (25.4%), it favored observation. A total of 29/147 (19.7%) UIA were not treated. In 15/29 (51.7%), UIATS favored observation, in 9/29 (31%), it favored treatment, and in 5/29 (17.2%), it was inconclusive (ρ = 0.366, p < 0.01). Discrepancies between UIATS and our clinical decisions did not correlate with complications (ρ = 0.034, p = 0.714). Our analysis shows that our more intuitive clinical decision-making has been in line with UIATS. Our treatment decisions did not correlate with an increased rate of complications 2).

The purpose of the study of Ravindra et al. was to compare the unruptured intracranial aneurysm treatment score (UIATS) recommendations with the real-world experience in a quaternary academic medical center with a high volume of patients with unruptured intracranial aneurysms (UIAs).

All patients with UIAs evaluated during a 3-year period were included. All factors included in the UIATS were abstracted, and patients were scored using the UIATS. Patients were categorized in a contingency table assessing UIATS recommendation versus real-world treatment decision. The authors calculated the percentage of misclassification, sensitivity, specificity, and area under the receiver operating characteristic (ROC) curve. RESULTS A total of 221 consecutive patients with UIAs met the inclusion criteria: 69 (31%) patients underwent treatment and 152 (69%) did not. Fifty-nine (27%) patients had a UIATS between -2 and 2, which does not offer a treatment recommendation, leaving 162 (73%) patients with a UIATS treatment recommendation. The UIATS was significantly associated with treatment (p < 0.001); however, the sensitivity, specificity, and percentage of misclassification were 49%, 80%, and 28%, respectively. Notably, 51% of patients for whom treatment would be recommended by the UIATS did not undergo treatment in the real-world cohort and 20% of patients for whom conservative management would be recommended by UIATS had intervention. The area under the ROC curve was 0.646.

Compared with the authors' experience, the UIATS recommended overtreatment of UIAs. Although the UIATS could be used as a screening tool, individualized treatment recommendations based on consultation with a cerebrovascular specialist are necessary. Further validation with longitudinal data on rupture rates of UIAs is needed before widespread use 3).

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