

# Watch your neighbor's garden, or Delphi's oracle for unruptured intracranial aneurysm treatment

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Current management recommendations for patients with unruptured intracranial aneurysms (UIAs) include surgical clipping, endovascular coiling, or noninterventional follow-up.<sup>1</sup> Several population-based studies and meta-analyses identified risk factors associated with aneurysm growth and rupture,<sup>2</sup> some of which are modifiable (arterial hypertension, smoking, and excessive alcohol consumption) and some of which are not (increasing age, female sex, ethnic origin, aneurysm size, and morphology); however, no randomized controlled data exist on the potential benefit of preventive intervention for UIAs. The multinational TEAM (Trial on Endovascular Aneurysm Management) study failed mainly due to poor recruitment, reflecting reluctance among the international neurointerventional community to actively participate in the trial and to approach eligible patients.<sup>3</sup>

The high prevalence of UIAs in the general population (one is newly diagnosed in every 200 brain MRIs in otherwise healthy individuals)<sup>4</sup> and the fear of the potentially devastating consequences of eventual aneurysm rupture may be the most evident reasons for the increasing number of interventions for aneurysm repair. Annual treatment numbers for UIA have doubled over the last decade in the United States.<sup>5</sup> The less explicit motives driving these increases may include the potential monetary incentives in the context of fee-for-service health care systems (for both institutional and personal income): the baseline management costs an average of \$25,000 per patient according to 2008 US hospital data.<sup>6</sup> The lack of randomized controlled trials comparing the risks of primary preventive intervention (i.e., surgical or endovascular aneurysm treatment) with noninterventional follow-up accounts for the lack of commonly agreed upon standards for treatment in patients with a recently diagnosed UIA.

In this context, the project team led by Dr. Etminan<sup>7</sup> is to be congratulated for their Herculean effort in developing a pragmatic decision guidance model based on a systematic comparison of expert views. The proposed “UIA treatment score” (UIATS)

summarizes and quantifies recently reported consensus data on a set of variables that specialists consider for UIA-related treatment decisions. In a manuscript reported last year, the same research group described their multidisciplinary consensus on assessment criteria of UIAs.<sup>8</sup> Based on their initial consensus, they further developed a pragmatic UIATS using the Delphi consensus method that involved 69 renowned specialists from multiple disciplines who agreed to rate (and rerate) their decisional agreement based on a series of 30 UIA cases. The final set of 12 main categories (with 29 stratifications) influencing individual treatment decisions showed sufficiently high agreement to allow validation by international panel members.

The major advantage of the UIATS lies in its standardized transparency. The checklist of commonly agreed upon categories allows a stepwise case assessment balancing predefined elements in favor of either intervention or conservative management. The tabular form is easy to use and lends itself to an eventual online version, and the 1-page print format fits nicely into routine hospital charts and clinical conference folders. Its structured approach may foster a more standardized reporting terminology, structured management decisions, systematic patient follow-up, and future research plans—even across the traditional boundaries among the various disciplines. Overall, formerly suspicious neighbors may now have found a common plan on how to do the gardening.

What the score cannot provide, however, is any guarantee that the garden will actually flourish. Despite its consensus on decisional categories, the eventual clinical benefit of any decision arising from the UIATS remains as uncertain as before. The proposed system—at least in its current form—does not estimate the potential risk or benefit for any given management decision or the likelihood of technical treatment success in case of intervention. Due to the lack of outcome data in the model, the UIATS basically measures physicians' behavior: a high score in favor of (or against) aneurysm treatment basically

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indicates that many international specialists would have opted in favor of (or against) intervention, but the score does not offer any insight into whether any such management decision will offer a better long-term outcome than the opposite treatment choice.

The UIATS is a major step forward and merits swift validation in independent follow-up studies. The format may expand over time and progressively include prospective outcome data as soon as they become available. More gardening is certainly needed, but at least the neighbors agree on how to plant their seeds.

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### DISCLOSURE

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