

A study with profound implications: Deep clinical AI volumetric aneurysm measurement is here



Volumetric AI-driven measurement clearly represents the future of aneurysm management. The paper highlights the power of this extraordinary tool and what it might mean for patient care.”



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Artificial intelligence aneurysm measurement tool finds growth in all aneurysms that ruptured during conservative management. JNIS 2022. Vol. 31, 2022

In this retrospective study, Dr. Daniel Sahlein and co-authors found that Rapid Aneurysm had a higher sensitivity for detecting aneurysm growth than the current clinical practice of manual linear measurement. The study used Rapid Aneurysm to retrospectively evaluate aneurysms that ruptured during conservative management at a single practice. The goal was to evaluate methods of growth in aneurysm size and morphology as alternatives to the conventional practice.

STUDY FINDINGS:

Rapid Aneurysm identified growth in volume, surface area, and maximum size of aneurysms

The study showed that, when using Rapid Aneurysm volumetric tracking features, changes in volume and surface area were detected. **2 of the 5 patient cases evaluated in the study did not have growth detected from conventional manual linear measurements, while the more sensitive Rapid Aneurysm volumetric measurement tools detected growth.**

The AI-enabled aneurysm measurement tool, Rapid Aneurysm, calculates reproducible volumetric and surface area measurements, which is a more accurate reflection of aneurysm size and morphology. It represents a revolution in the technique for measuring aneurysm growth.

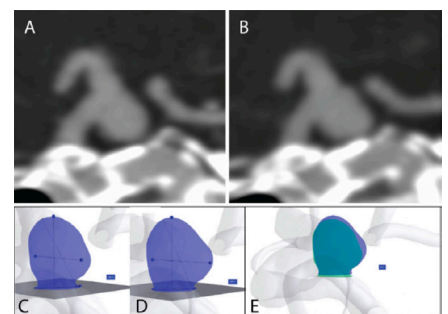


Figure 4 Case 1. Sagittal CTA maximum intensity projections from initial exam (A) and 1 year later (B). The images are in a nearly identical plane of section (which is both unusual and fortunate). Nevertheless, there is no discernable change in linear dimension despite a 5.9% change in volume. (C, D) Side by side images of the first scan (left) versus the last scan (right) taken of the unruptured intracranial aneurysm. (E) This panel shows the first and last scans overlaid, demonstrating aneurysm growth.



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JNIS 2022. Vol. 31, 2022



Scan to read

In contrast to the current clinical practice, the deep clinical AI-enabled Rapid Aneurysm identified:

- Aneurysm maximum size increased for all five aneurysms by the range of 1.82–63.3% from the first scan to last
- Aneurysm volume increased for all five aneurysms by the range of 5.9–385.5% from the first scan to the last
- Aneurysm surface area increased for all five aneurysms by the range of 3.27–175.8% from the first scan to the last.

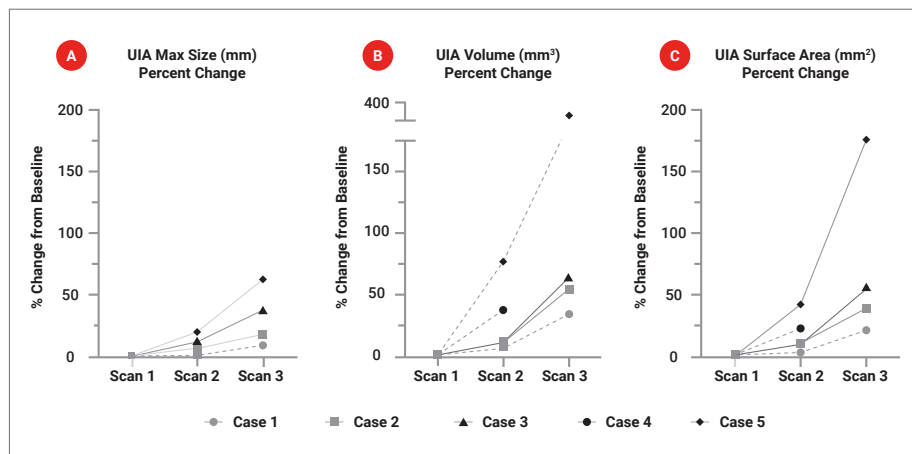


Figure 1. Two sets of scans from five patients who had unruptured intracranial aneurysms were processed using Rapid Aneurysm to measure the changes in maximum dimension, volume, and surface area over time. Chart source: <http://dx.doi.org/10.1136/jnis-2022-019339>

Profound implications for aneurysm management

Rapid Aneurysm goes beyond finding potential aneurysms by helping assess rupture risk with the surveillance and quantification of aneurysms. Our mission is to advance the field of aneurysm care, changing paradigms and enhancing the progression toward better ways of prognosticating rupture risk.

Only Rapid Aneurysm helps physicians find, track and treat aneurysms.