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ASPECTS Distorts Infarct Volume Measurement

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ASPECTS Distorts Infarct Volume Measurement

Sundaram et al¹ reported lucidly on agreements and correlations of ASPECTS for NCCT (manual, automatic) and CTP-CBV (manual). But why use ASPECTS, not volume?

Invented as a volume surrogate, ASPECTS takes the form of “content analysis”—a research method to quantify texts and symbols,² wherein ASPECTS *unitizes* the MCA territory by defining 10 regions and *categorizes* each unit as having either no or any acute infarction. Measurement is degraded by the unitization’s vague definitions and diverse volumes, the binary categorization of so few units, and the bias of “any.” ASPECTS promotes interobserver disagreement (masked by “auto-”) and scatters markedly away from true volume. It is not excused for individual patient use by mere population correlation. Moreover, ASPECTS tends to advance infarcts by sometimes large margins of error beyond a supposed threshold of risk or futility, denying thrombectomy. A detailed explanation of ASPECTS and its flaws and a quick remediation by manual volumetry using the diameter formula $ABC/2$ (or a PACS-friendly refinement called $2Sh/3$) are available.³

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Besides the well-documented $ABC/2$ and $2Sh/3$, the software behind any auto-ASPECTS can, in principle, report infarct volumes. If these and other authors skip ASPECTS and use volume, their agreements and correlations might be stronger and their plots less scattered.

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