Figure legends

Figure 1: The measurements of PSV and AcT

PSV was measured at the point with maximum blood flow velocity (dotted arrows).
When there was monomodal peak pattern, AcT was defined as the time up to the maximum flow velocity (white arrows) (a). When there was monomodal peak pattern with a distinct flection point, AcT was defined as the time up to the inflection point (b). When there were bimodal peaks, AcT was defined as the time up to the first peak (c).

PSV, peak systolic velocity; AcT; acceleration time

Figure 2: Relationship between carotid artery ultrasonography parameters and DSA-NASCET

In simple linear regression analysis, DSA-NASCET shows a positive and significant correlation with ICApsv (a), ICApsv/CCApsv (b), ICA-AcT (c), and AcT ratio (d).

Dotted arrow: male, 86 years old, left carotid artery, ICA-AcT 0.1sec, AcT ratio 2.0, PSV 426.4 cm/sec, ICApsv/CCApsv 28.6

DSA, digital subtraction angiography; NASCET, Symptomatic Carotid Endarterectomy Trial; PSV, peak systolic velocity; ICA, internal carotid artery; CCA, common carotid artery; AcT; acceleration time
ICApsv/CCApsv = PSV of ICA / PCV of the ipsilateral CCA)
AcT ratio = ICA−AcT/(AcT of the ipsilateral CCA)

Figure 3: Sensitivity and specificity of DSA-NASCET stenosis according to the NASCET criteria

For predicting DSA-NASCET ≥ 50% on the ROC curve, AUC of ICApsv was 0.985, ICApsv/CCApsv was 0.970, ICA-AcT was 0.861, and the AcT ratio was 0.958 (a). For predicting DSA-NASCET ≥ 70% on the ROC curve, AUC of ICApsv was 0.978, ICApsv/CCApsv was 0.963, ICA-AcT was 0.888, and the AcT ratio was 0.945 (b). In contrast, in 30 vessels with acoustic shadow which interfered with direct measurement of ICApsv in the most stenotic site, for DSA-NASCET ≥ 50% on the ROC curve, the AUC of ICApsv was 0.516, ICApsv/CCApsv was 0.914, ICA-AcT was 0.839 and AcT ratio was 0.887 (c). For diagnosing DSA-NASCET ≥ 70% in the 30 vessels on the ROC curve, the AUC of ICApsv was 0.648, ICApsv/CCApsv was 0.895, ICA-AcT was 0.753 and AcT ratio was 0.860 (d).

DSA, digital subtraction angiography; NASCET, Symptomatic Carotid Endarterectomy Trial; PSV, peak systolic velocity; ICA, internal carotid artery; CCA, common carotid artery; AcT; acceleration time, ROC; receiver operating characteristic, AUC; area under curve

ICApsv/CCApsv = PSV of ICA / PCV of the ipsilateral CCA)

AcT ratio = ICA–AcT/(AcT of the ipsilateral CCA)

Figure 1

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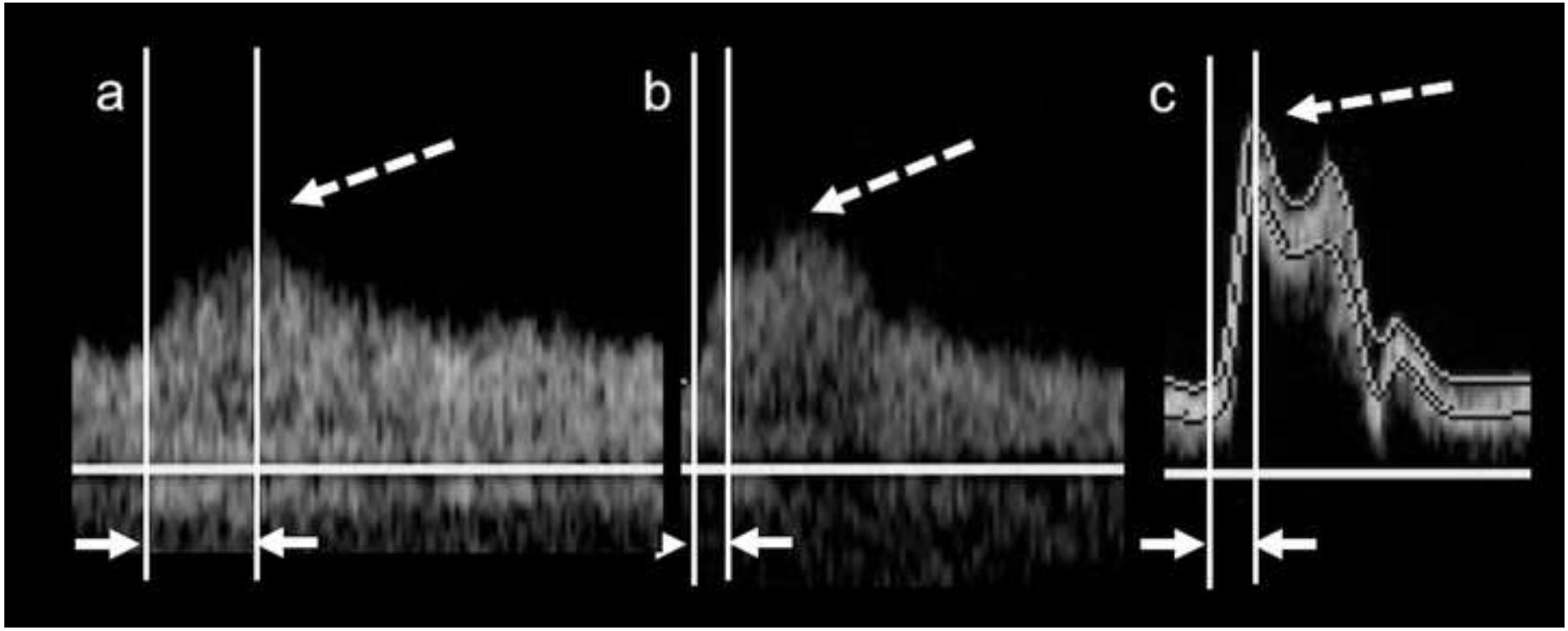

Figure 2

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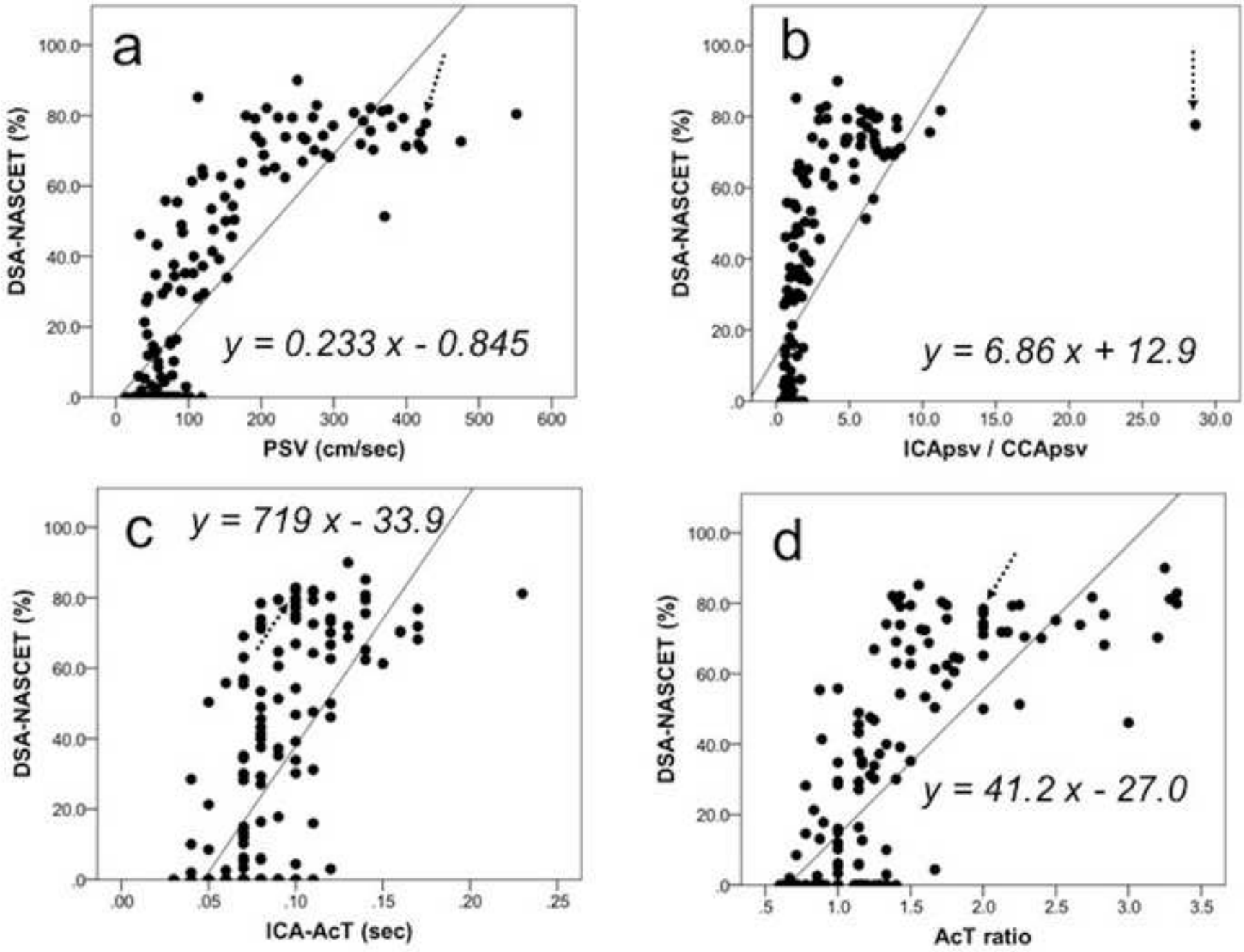

Figure 3

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