

# In-Stent Stenosis

## Supported by syngo iFlow

Courtesy of Charles M. Strother, MD

University of Wisconsin School of Medicine and Public Health, Madison, WI, USA

### History

74-year-old woman with a history of recurrent left-hemisphere transient ischemic attacks (TIAs) following previous angioplasty and stenting of a left middle cerebral artery stenosis.

### Diagnosis

A CT perfusion study demonstrated increased transit times and decreased cerebral blood flow of the left cerebral hemisphere. CTA showed evidence of in-stent restenosis. Cerebral angiogram revealed an approximately  $\geq 90\%$  in-stent stenosis of the left M1 extending into the inferior division (M2 segment).

### Treatment

Percutaneous transluminal balloon angioplasty resulted in a reduction of the

stenosis by about 50%. There was markedly improved flow into the middle cerebral distribution. The patient did not experience any further TIAs.

### Comments

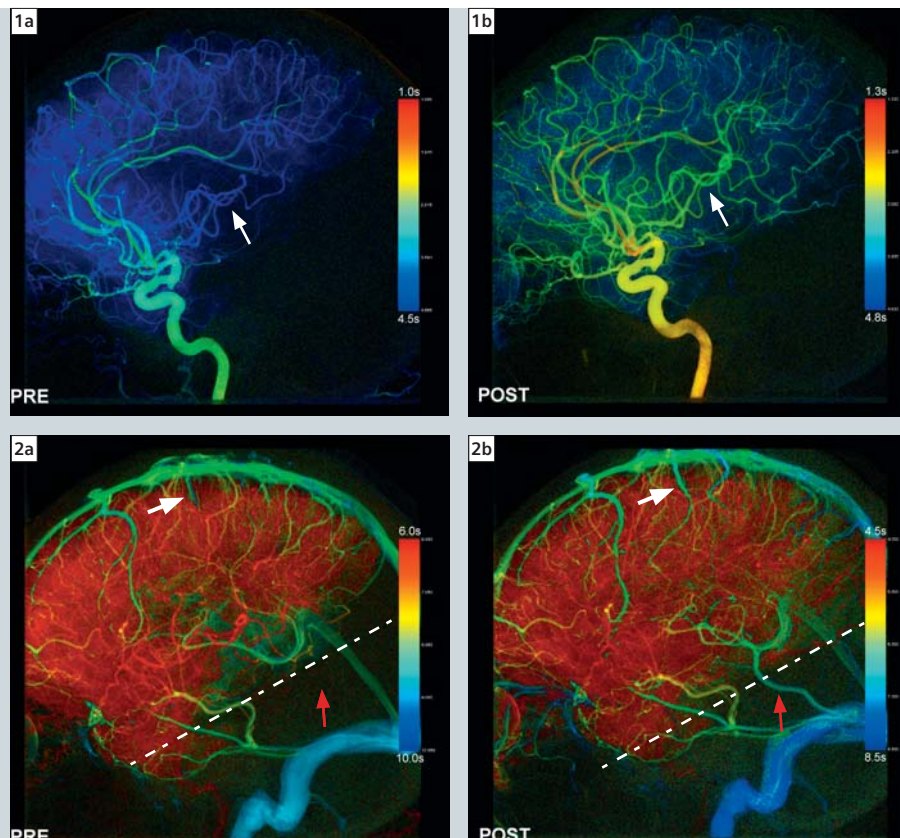
**Arterial Phase:** The lateral projection of the pre-angioplasty angiogram shows slow flow in middle cerebral branches, more in the inferior division than in the superior division (white arrow). After angioplasty flow is much faster in these branches. These changes are easier to visualize on the color-coded image than on the DSA.

**Parenchymal Phase:** The lateral projection of the pre-angioplasty angiogram shows slow flow in the inferior division of the middle cerebral artery. There is

also incomplete opacification of the middle cerebral territory (white dotted line shows expected limit of MCA territory). The vein of Labbe (red arrows) is not filled and cortical veins from the middle cerebral territory (white arrows) fill more slowly than do veins from the anterior cerebral territory. After angioplasty there is much faster flow in the middle cerebral cortical branches with good opacification of the entire middle cerebral territory. The vein of Labbe and other cortical veins from the middle cerebral territory now fill normally. These changes are much easier seen on the color-coded image than on the DSA.

### Contact

tom.hartley@siemens.com



**1** Lateral projection of arterial phase pre- (a) and post-treatment (b).