Fenestrated clips

To the Editor: We have read with interest the paper by Zada et al.1 (Zada G, Christian E, Liu CY, et al: Fenestrated aneurysm clips in the surgical management of anterior communicating artery aneurysms: operative techniques and strategy. Clinical article. Neurosurg Focus 26(5):E7, May, 2009) on the use of fenestrated aneurysm clips in the management of the anterior communicating artery (ACoA) aneurysms. We fully agree with the authors on the value of fenestrated aneurysm clips in ACoA aneurysms, and we use more or less the same concepts and techniques of clipping these aneurysms as described by Zada et al.

The authors state that “the closing pressure and angle of nonfenestrated clips may be a limiting factor in totally occluding wide-necked or giant aneurysms, as compared with fenestrated clips, which offer more parallel approximation of clip blades” and illustrate this with Fig. 1 of their paper (Fig. 1).

We have analyzed this figure and come to the conclusion that this statement cannot be confirmed for all clips available. Both the nonfenestrated and fenestrated straight clips follow the same angle when closing or opening. This is illustrated in Fig. 2, in which we tested both Sugita clips (Mizuho Medical Inc.) and L-clips (Peter Lazic). As can be seen, both the fenestrated clips and nonfenestrated clips have the same direction and angle when closing or opening. This is also illustrated when overprojecting the clips on each other.

The fact that it is easier to clip a wide-necked aneu-

Fig. 1. Figure 1 of the article by Zada et al. Reproduced from Zada G, Christian E, Liu CY, Giannotta SL: Neurosurg Focus 26(5):E7, 2009.

Fig. 2. Examples of closing angles of fenestrated and nonfenestrated clips including an overprojecting view of the clips. Upper: Sugita clips. Lower: Peter Lazic clips. As can be seen, the angles are the same for both clips, regardless the manufacturer.
rysm with the fenestrated clip has more to do with the increased visibility at the region of the proximal end of the clip blades. Because of the fenestration, one has a much better view of the proximal part of the closing blades than when using a straight nonfenestrated clip, even more so in cases in which there is no adjacent artery in the fenestration. This is illustrated in Fig. 3.

Logically, with 90°-angled clips, regardless of whether they are fenestrated or not, the closing direction is parallel to the entire course of the aneurysm (Fig. 4).

The authors also state that the closing pressure is higher in fenestrated clips. However, according to data from several companies manufacturing aneurysm clips (Aesculap, Mizuho, and Peter Lazic), the closing force is similar between the fenestrated and nonfenestrated clips of similar length.

Despite the fact that we think that the 2 aforementioned technical topics cannot be generalized for all clips available, we believe the authors are to be congratulated for their excellent and scholarly paper on clipping of complex ACoA aneurysms.

**Reference**


**RESPONSE:** We thank Van Loock and colleagues for their insightful comments regarding the use of fenestrated clips for cerebral aneurysms. The authors raise interesting points regarding the closing angle and pressure generated by fenestrated aneurysm clip blades compared with other aneurysm clip types. They suggest that the challenge of using straight clips, rather than fenestrated clips, for large or giant aneurysms is more an issue of visibility than the actual angle created by the clip blades. We agree that the overall angle of clip blades, as measured near the fulcrum,