Embolotherapy in Giant Pulmonary Arteriovenous Malformations

Blocking the Exit—Reducing the Risk of Peri-Interventional Stroke?

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Several publications report strokes early after embolotherapy for pulmonary arteriovenous malformations (pAVM) (1–3). Various mechanisms are discussed for this event, including embolization of newly formed thrombotic material originating from the aneurysmal sac after occlusion of the arterial feeder (2).

To reduce the risk of peri-interventional stroke in a 22-year-old woman with a giant pAVM (66 × 47 × 70 mm³) (Figs. 1A and 1B), after occlusion

Figure 1. pAVM Before and After Intervention

(A) Angiography demonstrating the giant pulmonary arteriovenous malformation (pAVM) and an additional pAVM (Online Video 1). (B) Three-dimensional computed tomography (3D-CT) reconstruction before intervention. (C) Angiography after placement of both vascular plugs (Online Video 2). (D) 3D-CT reconstruction 4 months after occlusion showing complete occlusion of the giant pAVM, a residual smaller pAVM, and normal-sized pulmonary vessels. Arrow: feeding artery, arrowhead: draining vein, big asterisk: giant pAVM, small asterisks: additional pAVMs, numbered arrowheads: 1 — arterial, 2 — venous vascular plug.

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of the main feeding artery (16-mm Vascular Plug II), we additionally blocked the draining vein via a transseptally advanced 18-mm Vascular Plug II (both devices: AGA Medical Corporation, Plymouth, Minnesota) (Fig. 1C). The patient recovered uneventfully; pulse oximetry rose from approximately 85% before intervention to 98%. Four months after embolotherapy, a computed tomography scan confirmed the excellent result (Fig. 1D). A minor residual pAVM was not targeted, because the patient refused a second procedure. Two years after embolotherapy, the patient is in good clinical condition without any neurological sequelae.

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REFERENCES

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For accompanying videos, please see the online version of this article.