

# Teaching NeuroImage: Traumatic Dissection of Lenticulostriate Arteries Within an Enlarged Perivascular Space

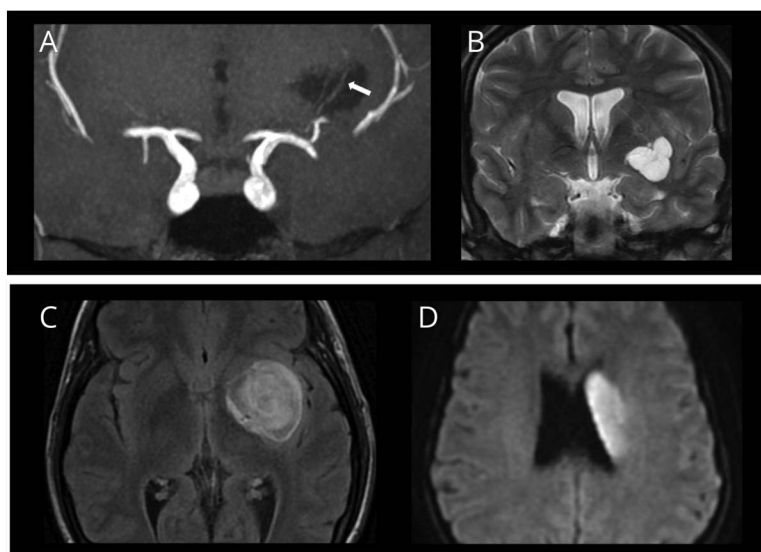
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**Figure 1** MRI Images Acquired 10 Years Before the Head Injury (A and B) and at the Time of Admission (C and D) Immediately After Head Trauma



Time-of-flight (TOF) imaging showed an enlarged perivascular space (PVS) centered by lenticulostriate arteries (arrow, A). Imaging after the trauma revealed bleeding within the PVS on T2 fluid attenuated inversion recovery (C) and ischemia of the caudate nucleus (D).

A 33-year-old woman was admitted with right side hemiplegia after head trauma. Brain MRI revealed an acute ischemic stroke in the left lenticulostriate territory and a parenchymal hematoma (Figure 1). The hematoma occurred within an enlarged perivascular space (PVS), which had been incidentally discovered 10 years earlier.<sup>1,2</sup> It was suspected that a traumatic dissection of lenticulostriate arteries within the PVS was responsible for both ischemic and hemorrhagic events (Figure 1). Healing of the hematoma and disappearance of the PVS and the lenticulostriate arteries were observed 2 months later (Figure 2). Excessive mobility of lenticulostriate arteries within an enlarged PVS may explain the mechanism of traumatic dissection in this case.

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## Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](https://www.neurology.org/N) for full disclosures.

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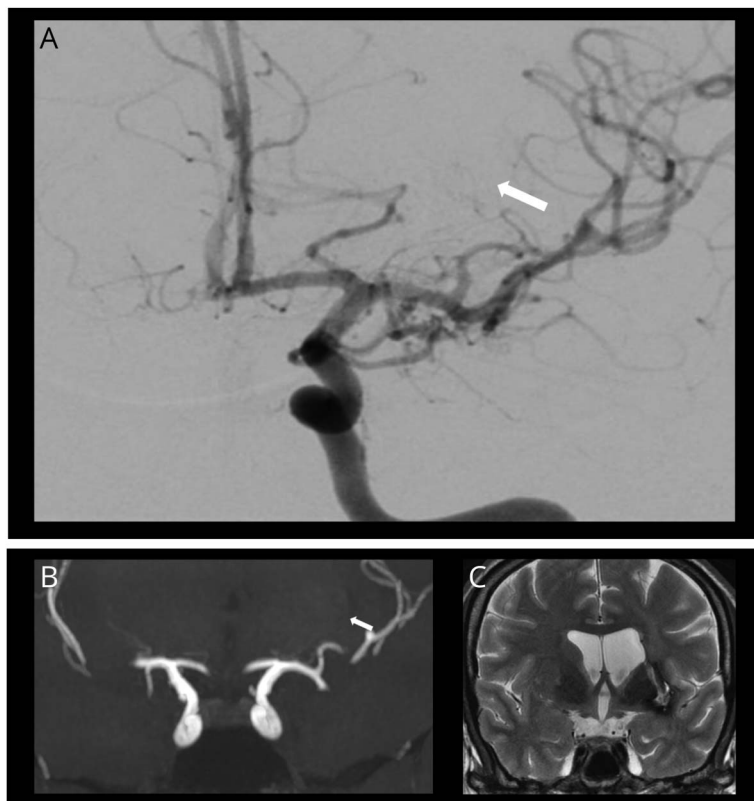
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From the Neuroradiology Department (P.J., B.K., C.R.-R., D.T., J.A., M.D., C.O., W.B.H., O.N.), GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France; and Neurology Department (D.V.), Delafontaine Saint Denis Hospital, Saint Denis, France.

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**Figure 2** MRI Images Acquired 10 Years Before the Head Injury (A and B) and at the Time of Admission (C and D) Immediately After Head Trauma



On 2 months angiography (A), lenticulostriate arteries were no longer visible (arrows, A, B). Shrinkage of both PVS and hematoma was observed on TOF and T2 (B, C).

**Appendix** Authors

Name	Location	Contribution
<b>Paul Janvier, MD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Drafting/revision of the article for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data; and additional contributions: execution/organization of the case report. Execution of arteriography
<b>Basile Kerleroux, MD, MSc</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Drafting/revision of the article for content, including medical writing for content, and study concept or design
<b>David Varlan, MD</b>	Neurology Department, Delafontaine Saint Denis Hospital, Saint Denis, France	Major role in the acquisition of data and additional contributions: neurological examination
<b>Christine Rodriguez-Régent, MD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Analysis or interpretation of data and additional contributions: article review and critique

**Appendix** (continued)

Name	Location	Contribution
<b>Denis Trystram, MD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Analysis or interpretation of data and additional contributions: article review and critique
<b>Julien Allard, MD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Major role in the acquisition of data
<b>Maxime Drai, MD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Major role in the acquisition of data
<b>Catherine Oppenheim, MD, PhD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Major role in the acquisition of data
<b>Wagih Ben Hassen, MD, MSc</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Analysis or interpretation of data and additional contributions: article review and critique

Continued

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## Appendix *(continued)*

Name	Location	Contribution
<b>Olivier Naggara, MD, PhD</b>	Neuroradiology Department, GHU Paris Psychiatrie et Neurosciences, Site Sainte-Anne, Paris, France	Analysis or interpretation of data and additional contributions: article review and critique

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## References

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2. Salzman KL, Osborn AG, House P, et al. Giant tumefactive perivascular spaces. *AJNR Am J Neuroradiol*. 2005;26(2):298-305.

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