



Profile

Pierre Amarenco: the persistent pioneer



William Lee

For more on **stroke prevention** see **Articles** *Lancet Neurol* 2022; **21**: 889–98

For more on **Vaincre l'AVC** see <https://vaincrelavc.org/>

For the **pioneer publication on cerebellar infarctions** see *Neurology* 1991; **41**: 973–79

For more on **Louis Caplan** see **In Context** *Lancet Neurol* 2010; **9**: 36

For the **paper on ulcerated plaques** see *N Engl J Med* 1992; **326**: 221–25

For the **first FAPS study** see *N Engl J Med* 1996; **334**: 1216–21

For the **SPARCL trial** see *N Engl J Med* 2006; **355**: 549–59

For the **TST trial** see *N Engl J Med* 2020; **382**: 9–19

For more on the **round-the-clock access clinic for transient ischaemic attack** see **Articles** *Lancet Neurol* 2007; **6**: 953–60

For more on the **RECANALISE study** see **Articles** *Lancet Neurol* 2009; **8**: 802–09

Pierre Amarenco, Professor of Neurology at Paris University (Paris, France), is a busy man. As well as being a prominent researcher in stroke and stroke prevention, he runs five clinics a week at which he sees patients with neurological disorders, is president of the stroke charity Vaincre l'AVC (which he set up with his wife Sophie in 2019), and has written a book for the general public on stroke prevention. Yet, at the age of 65 years, the hardworking French native has just taken on a new challenge and position. In September, 2022, Amarenco was appointed visiting professor in the Brain Health and Stroke research programme at the Population Health Research Institute (Hamilton, ON, Canada), hence, he now spends half his time in France and the other half in Canada. His work in Canada will focus on developing clinical trials in stroke.

Despite being born in Marseille and moving to Paris when he was 15 years old, Amarenco calls the French Alps near Annecy his “real adopted region” and the place where his childhood memories were made. He is happy to have imparted his love of mountains and nature to his four sons and his two grandchildren. The Alps have also provided inspiration in Amarenco's career. “Hiking in the Alps taught me that we should never give up until we reach the point of arrival at the summit. That was my direction during all my career: being persistent”, he says.

Amarenco knew that he wanted to be a neurologist at an early stage of his career. In 1983, as a young resident, he treated a patient with isolated vertigo whose CT scan showed a cerebellar infarction, and this case inspired him to consider research in that area of medicine. “In the literature, cerebellar infarctions had not been studied at that time, except for isolated cases, including at autopsy”, he recalls. Under the direction of Jean-Jacques Hauw, a leading neuropathologist at the Pitié-Salpêtrière Hospital (Paris, France), Amarenco decided to do his MD thesis using the large collection of autopsy specimens at the Hospital “to describe the anatomy, the precise locations, causes and mechanisms of cerebellar infarctions in all three territories”. The work led to his first notable publication describing cerebellar artery territory infarctions. The advent of MRI during this period allowed Amarenco to work further on cerebellar infarctions, including at Tufts University (Boston, MA, USA) with the eminent neurologist Louis Caplan. “For me, he is like a ‘father’ in neurology”, Amarenco comments.

In 1986, while Amarenco was investigating autopsy specimens to search for the potential causes of cerebellar infarctions, he “found that ulcerated atherosclerotic plaques in the aortic arch had not yet been considered a potential cause of cerebral embolism”. He subsequently

showed that ulcerated plaques in this location could be a cause of cerebral embolism. A few years later, in the French Study of Aortic Plaques in Stroke (FAPS), Amarenco and colleagues revealed the strong association between ischaemic stroke and large atherosclerotic plaques in the aortic arch.

Amarenco's work on the pathology of atherosclerosis laid the foundation for his subsequent research on stroke prevention with antithrombotic and lipid-lowering drugs. In the early 1990s, Amarenco attended presentations of the first trials to show the potential for statin therapy to reduce stroke risk, which triggered “my interest in lipid-lowering therapy during the next 25 years”, he says. He led the Stroke Prevention by Aggressive Reduction of Cholesterol Levels (SPARCL) and the Treat Stroke to Target (TST) trials, whose findings resulted in new recommendations in the joint American Heart Association and American Stroke Association 2021 guideline for stroke prevention.

Amarenco has also pioneered approaches in stroke management. In 2001, he became chair of the Department of Neurology and Stroke Centre at Bichat-Claude Bernard University Hospital (Paris, France) and developed a round-the-clock access clinic for transient ischaemic attack, which now admits 700–800 patients a year. In further innovative work in the RECANALISE study, Amarenco and his team demonstrated the efficacy of endovascular reperfusion therapy. He counts among his proudest career achievements the letters he has received “from patients and families, who thank my team for having ‘miraculously’ recovered from a stroke, particularly in the years 2001 to 2014 when endovascular therapy was not established”.

Amarenco's current research focuses on complications of atherosclerotic disease in relation to stroke. He is principal investigator on a randomised clinical trial of long-term treatment with colchicine and ticagrelor for secondary stroke prevention in patients with stroke due to atherosclerosis (the RIISC-THETIS trial; NCT05476991) as well as on projects on lipid-lowering and antithrombotic treatments in this same group of patients. Through his charity work with Vaincre l'AVC, he aims to raise public awareness of stroke symptoms and about an individual's own risk of first stroke.

Asides from research, Amarenco's passions include enjoying the opera and art exhibitions. But outside of his busy schedule, he finds time to rest too. He enjoys being at home with Sophie, and spending time in their second home near Annecy “with friends, cooking for them and drinking a glass of wine together”, he reveals.

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