

LETTER TO THE EDITOR**TO THE EDITOR****Reply to Richard Leblanc's Letter to the Editor, "Cerebrovascular Neurosurgery in Canada: An Historical Review"**

Keywords: Cerebrovascular surgery, Neurosurgery, Canada, History

I am grateful to Dr Richard Leblanc for his informative comments regarding my paper on Canadian contributions to cerebrovascular neurosurgery. While Edward Archibald undoubtedly demonstrated his interest in neurosurgery through his 1908 monograph, he did not make any significant contribution to cerebrovascular neurosurgery. His interests also included thoracic and abdominal surgery and surgical education.¹ Arthur Elvidge spent some time with Egas Moniz and was the first neurosurgeon in North America to utilize cerebral angiography in the diagnosis of intracranial neoplasms and vascular disease.² He injected thorotrast by open exposure of the carotid vessels, later changing to a percutaneous technique and diodrast. He also helped in the design of an automatic film changer, together with Jesus Sanchez-Perez, who modified it for stereo angiography. Elvidge's articles demonstrate arteriovenous malformations and aneurysms. Independently of Moniz, he also associated carotid thrombosis with hemiplegia and cerebral embolism. He was, indeed, the first to clip an anterior circulation aneurysm. Previous reports described wrapping, carotid ligation or excision, and clipping at other locations. Together with William Feindel, he speculated that aneurysmal hemorrhage could cause cerebral ischemia. Penfield described "red cerebral veins" in 1933 during operations for epilepsy. Feindel in 1965 included examples of red veins in neoplasms and what he called metabolic arteriovenous shunts,

namely functional and not structural arteriovenous shunts, in effect, a cerebral steal phenomenon.³ This was investigated later by fluorescein angiography and xenon perfusion (Feindel, Yamamoto, and Hodge) and using positron emission tomography (Leblanc and Meyer). I also appreciate the information Dr Leblanc provides regarding the contributions of Francis Echlin, Eric Peterson, and Leblanc.

DISCLOSURE

Dr Ramnath has nothing to disclose.

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