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## FAILURE OF PERIVASCULAR DRAINAGE AND PATHOGENESIS OF NEURODEGENERATIVE DISEASES

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The brain lacks traditional lymphatic vessels. Instead, interstitial fluid is eliminated along the basement membranes of capillaries and basement membranes surrounding smooth muscle cells of arteries, towards the surface of the brain. These intramural periarterial drainage pathways become modified with ageing, possession of apolipoprotein E4 genotype, hyperlipidemia, resulting in the accumulation of aggregated proteins such as amyloid-beta (A) in the walls of arteries as cerebral amyloid angiopathy. Soluble antigens are eliminated from the brain along the intramural periarterial drainage pathways, towards the cervical lymph nodes. Arteries in the grey matter of the brain possess a layer of leptomeninges as adventitia, whereas arteries in the white matter have two such layers, with a potential perivascular space that becomes dilated when drainage of fluid is impaired in the grey matter. The motive force for efficient clearance of fluids is provided by the contractions of smooth muscle cells and therapeutic strategies to facilitate the clearance of fluid and prevent neurodegenerative diseases may be based on adrenergic and cholinergic interventions.



### Biography

Roxana Carare is a medically qualified Clinical Neuroanatomist who has graduated in General Medicine in Bucharest Romania in 1996 and completed her PhD in Experimental Neuropathology in the Faculty of Medicine, University of Southampton, UK. She has a rich educational portfolio and leads research into the lymphatic drainage pathways of the brain. She has published more than 50 papers in peer-reviewed journals, 4 book chapters and has been serving as a Board Member on international organisations and an Editorial Board Member of repute for several journals.

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