Towards a Better Understanding of Vascular Dementia

By Peter J. Lin, MD, CCFP

Large cortical strokes and vascular dementia have been well established and studied, but the subcortical variety is less well known. In this issue, Dr. McCracken reviews subcortical ischemic vascular dementia (SIVD). There are two basic pathological processes behind SIVD. The first is a generalized narrowing of the small blood vessels around the ventricles, which leads to hypoperfusion of the myelinated axons. This produces the classic periventricular white matter changes on MRI scans, which are hallmark for Binswanger’s disease. The second pathological process is the occlusion of small arterioles leading to a lacunar infarct. Both of these processes are accelerated by hypertension and diabetes.

The symptoms of a lacunar infarct depend on its location. Like a meteor hitting a desert vs. hitting a major city, the outcome is quite different. On MRI scans, there are often lacunar infarcts or white-matter lesions that are asymptomatic because they have not hit a critical area. They may be silent, but they are proof that the disease process is active. Hence, aggressive treatment of vascular risk factors, such as blood pressure, diabetes, lipids and anti-platelets, is prudent even though it has not yet been formally proven to reduce the risk of dementia.

In his piece, Dr. Dalziel writes about how targeted screening is very cost effective. In other words, go fishing where there are fish. The Memory Impairment Risk Calculator uses age, number of vascular risk factors and family history of dementia to estimate the patient’s risk. The Mini-Cog, which combines three-word recall and clock drawing test, is a quick screening test that separates those likely to have dementia vs. those that do not. The detection rate can be further improved by adding animal naming in one minute to the test. If a patient screens positive, then the ABC checklist can be used to assess cognition, function and behavior.

Dr. Coolican gives us his take on VAS-COG 2009, which took place in Singapore in January this year. The puzzle of dementia continues but, as seen at the meeting, progress has been made. New imaging techniques show promise in detecting the burden of disease and may help predict who will progress to dementia.

Presenters at the meeting discussed clinical tools including the MOCA, which may be more useful than the MMSE, as well as the concept that the burden of disease is a combination of three things: plaques and tangles, microvascular insults, and brain atrophy in critical areas.

In Dr. Thorpe’s article, she reviews how symptoms of dementia and depression can often overlap and that these conditions may mimic each other, yet their treatments are quite different (anti-depressants vs. cholinesterase inhibitors or NMDA receptor blockers). This emphasizes the importance of a proper diagnosis. Dr. Thorpe also discusses that depression can lead to a greater risk of dementia later in life by damaging the hippocampus. On the other hand, as dementia progresses, behavior and mood issues that emerge (apathy, agitation and insomnia) could easily be mistaken for depression. There are numerous scales for diagnosis, but nothing replaces a good history, especially from a caregiver. Dr. Thorpe also reminds us to check for anemia, vitamin B12, thyroid, electrolyte imbalance and drug effects (interactions, anticholinergic effects).

This issue is full of great articles and, hopefully, they will stimulate our minds, and provide us with pearls to take back to our patients.