

Throwing the Kitchen Sink at Atherosclerosis



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The “Polypill” Concept

Every Canadian family physician has hundreds, if not thousands, of patients who have atherosclerosis and who are at risk of atherothrombosis. We treat every risk factor possible to improve their longevity and quality of life. Unfortunately we have no single agent that is able to achieve this goal. As a result, we practice polypharmacy—using agents from various classes in order to try to achieve a benefit. This issue of *Atherosclerosis in Primary Care* looks at the evidence behind polypharmacy, evaluating the agents separately and in combination. This issue goes even further with a reprint from the *British Medical Journal* addressing the evidence behind the concept of a “polypill” (an antiplatelet agent, an ACE inhibitor, a beta-blocker, a diuretic, a statin and the vitamin folic acid [for the purpose of reducing homocysteine]) though in reality the size of such a pill would preclude its use.

Atherosclerosis/thrombosis is thought to be the leading cause of death worldwide, resulting in an estimated 55,694,000 deaths (cardiac related 41%, cerebrovascular 31%) in the year 2000, according to the WHO’s 2001 world health report. Thirty percent of all worldwide deaths are related to this condition. This percentage surprisingly exceeds infectious diseases/parasites (19%) and cancer (13%). In Canadian terms, the incidence of MI per year is at 75,000, and the incidence of stroke is 40,000 to 50,000 per year, according to the Heart and Stroke Foundation. Unfortunately, no single agent or intervention is able to markedly alter these numbers alone. Dr. Libby currently presents at the AHA and ACC the concept of treating every identifiable risk factor. However, in the world of evidence-based medicine, we lack mortality evidence for many single agents, let alone evidence for efficacy and safety in multimodality therapy. Yet everyday, polytherapy is in fact what we practice. Even in the world of invasive cardiology and neurology, the trend is moving away from focusing on localized disease and is toward treating the entire vascular bed. This makes sense, as angioplasty and stenting treats only a very small area, on average 0.0002 m² of the possible 1,000 m² of the total endothelial area. In family practice, we have come to realize that if there is one lesion, there are usually many more. However, patients rarely come to this conclusion. The case study presented in this issue by Dr. Kevin Saunders, a family physician in Winnipeg, Manitoba, reviews how his patients attain a false sense of security once they have had a vascular remodeling procedure. Clearly, the pathologic process that we call atherosclerosis affects far more than 0.0002 m² and, in fact, represents a systemic disease affecting all 1,000 m² of the total endothelial area of the average person.

In conclusion, atherosclerosis/thrombosis is a systemic disease that has its origin as a vascular inflammation. Reduction of the damage caused to the vascular “piping” by every means possible reduces the inflammatory process that leads to atherosclerosis/thrombosis. As a result, combination therapy with agents from many pharmacologic classes is the current treatment of choice. The key, as defined by Dr. Saunders, is to titrate the therapy to the evidence-based, effective dose required to impart its benefit. ♡

Yours,

A handwritten signature in black ink, appearing to read 'Peter Wozniak', with a long horizontal flourish extending to the right.

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