



“ We now have the ability to provide Treatment as Prevention-cardiology style-and potentially eradicate cardiovascular disease as the leading cause of death and disability around the world. ”

# TREATMENT AS PREVENTION: CAN A POLYPILL WORK FOR THE HEART?

By Narendra Singh, MD

I recently had the pleasure to listen to Dr. J. Montaner, a pioneer in HIV/AIDS Research who has helped his home province of British Columbia dramatically reduce HIV transmission rates so low that the HIV hospital wards in Vancouver have been closed down.

In conjunction with the World Health Organization, Dr. Montaner hopes to do the same worldwide. This remarkable feat was achieved not with a wonder drug or a super vaccine. Instead, they combined a number of drugs (anti-retroviral therapy) and offered it inexpensively to HIV infected individuals. By doing so they brought virus levels low enough to prevent transmission. This in turn reduced the number of individuals, including newborns who were newly infected with HIV. Thus, the term *TasP-Treatment as Prevention*. So how does this relate to the heart?

In cardiology, we now have the ability to identify early heart disease (plaque buildup) with a simple CT scan called the coronary calcium score. If your score is zero you essentially have no heart blockages. A score of one to 10 represents minimal disease, 11-

100 mild disease, 101-400 moderate disease and 401+ is considered severe disease. It is a relatively inexpensive test with low radiation exposure that I would recommend for anyone with risk factors or a family history of coronary artery disease.

We also have four classes of drugs proven to reduce the risk of a heart attack and stroke. The first is a blood thinner; most commonly this is aspirin but clopidogrel can also be used. Second is a beta-blocker such as atenolol, metoprolol, or carvedilol. These drugs work by lowering blood pressure, slowing the heart rate, and reducing arrhythmias. Third are blood pressure lowering meds called ACE inhibitors or ARB's. Common examples include lisinopril, ramipril, losartan and valsartan. Finally, the fourth and most important are statins, which lower bad cholesterol and actually shrink the plaques. Common examples include simvastatin, pravastatin, atorvastatin, and rosuvastatin. While not many folks, if any, like to be on meds, all the drugs mentioned here are now generic and in many cases cost just pennies a day.

Therapeutic lifestyle changes (TLC) such as weight loss, dietary modification, smoking

cessation, exercise and meditation are the first steps to preventing coronary heart disease. The addition of these four classes of medications can reduce heart disease risk by another 75%. Taking four pills is not easy and so a single combo pill called a “polypill” is being tested around the world.

It's not hard to envision that if individuals who had an abnormal coronary calcium score were offered inexpensively (or even freely) the opportunity to take the polypill daily, we could dramatically reduce the occurrence of heart attacks, stroke and sudden death. In other words, we now have the ability to provide Treatment as Prevention-cardiology style-and potentially eradicate cardiovascular disease as the leading cause of death and disability around the world. ■

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