

Lipid Lowering Drugs all have a place in therapy

Prof Hayward Vermaak from the University of Pretoria Medical School recently addressed meetings of the SA Academy of Family Practice/Primary Care in association with Parke-Davis in Johannesburg and Pretoria. The issue of total cholesterol management and HDL as a risk factor was addressed at both well-attended meetings and the topic aroused intense interest.

Prof Vermaak was responsible for the institution of the lipid clinic in Bloemfontein which conducts studies on the interaction between risk factors in order to identify the risk status of patients. He is currently professor and chairman of the department of chemical pathology at the Institute of Pathology at the University of Pretoria Medical School.

Commenting on the importance of high and low density lipoprotein cholesterol, Prof Vermaak said, "Epidemiological studies have indicated that an elevated low density lipoprotein (LDL) level is an important atherogenic particle. Recent investigations have also added a number of other lipoprotein particles to this list, for example, elevated lipoprotein (a) and β VLDL, as well as elevated apolipoprotein B and low HDL levels. In some authorities' opinion, a low HDL level can be regarded as perhaps the most important atherogenic insult in human beings. In the well-known Lipid Research Clinics Study, elevated LDL particles in premenopausal women were not causally related to ischaemic heart disease (IHD), while low HDL levels were. In the Framingham Study, high LDL levels in females were significant, but not as powerful a predictor of future cardiac heart

disease (CHD) events as low HDL levels. The afore-mentioned offer a number of important lessons and logical explanations for patients with Ischaemic Heart Disease (IHD), who have "normal total cholesterol (TC)" levels. TC levels per se will not identify those patients who are at risk because of a low HDL level or those who have an elevated Lp(a). It will also miss a very important group of patients who have normal LDL cholesterol levels but elevated carrier proteins (Apo-B100) of LDL cholesterol. In some studies, more than 50% of patients who presented with IHD, were reported to be in this category. A normal TC [or low density lipoprotein cholesterol (LDL-C)] is therefore in itself no guarantee that an underlying lipid abnormality can be excluded and that the patient is risk-free."

He also noted that, since lipid abnormalities require lifelong adjustments, the quest for parameters to identify those who are at risk,

receives a good deal of attention from many researchers. One of the first indices to be explored was the LDL-C/high density lipoprotein cholesterol (HDL-C) ratio. This ratio will be negatively affected even in patients with normal LDL but low HDL cholesterol levels, and will therefore be more sensitive than an "ordinary" TC or LDL-C level. He added, "This refinement of risk was taken one step further when the ApoB/ApoA1 ratio was investigated. Overseas as well as local investigations have shown the superiority of these determinations over 'conventional' lipid parameters. However, inter-laboratory variations often negate the value offered by these more advanced measurements.

Role of elevated triglyceride levels in atherosclerosis uncertain

Prof Vermaak went on to say, "The role of elevated triglyceride levels in causing atherosclerosis is uncertain,



Seen at the Johannesburg Academy meeting, are, from left to right, Harold Lortan, district sales manager of Parke-Davis, Professor Hayward Vermaak, Rosemary Bissett, marketing manager of Parke-Davis and Dr Bentley Phillips.

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but an increasing number of researchers are viewing it as an important contributor to the disease process especially when it is associated with a low HDL cholesterol level. The European Atherosclerosis Society base their risk classification not only on TC abnormalities but also on the extent to which triglycerides are abnormal.”

He added that most epidemiological studies have shown that CHD mortality rates rose sharply when elevated LDL cholesterol levels became associated with abnormal triglycerides and low HDL levels.

According to Prof Vermaak, “Patients who are at risk because of a low HDL and/or high triglyceride level, can very often normalise their lipid abnormality by reducing their weight to their ideal body mass. Important modalities to achieve this goal include the right diet, regular exercise and correction of glucose intolerance and alcohol abuse, if present. Fortunately, lipid lowering drugs are also available which are very effective in lowering triglycerides and elevating HDL concentrations.”

Gemfibrozil reduces risk of CHD by 3:1

Prof Vermaak added that, “One of the drugs in this category, gemfibrozil, has been used in a prospective study in Helsinki and has been shown to reduce the risk of CHD by 3% for every 1% reduction in TC. Recently, the HMG Co-A reductase inhibitors or statins, have been introduced in South Africa. These drugs are potent lowering agents of LDL-C in particular, and are efficacious in subjects with heterozygous FH where the major abnormality is an elevated LDL level

as a result of an LDL receptor deficiency. It should be clear that the different lipid lowering drugs each have their specific indication and place where they will be most efficacious. The atherogenic effect of a mildly abnormal lipid profile can also be potentiated by other risk factors, such as smoking, hypertension, obesity, glucose intolerance, etc. A holistic approach in remedying a patient’s lifestyle, diet etc is of great importance.”

Lipid tests mean nothing if methods vary from laboratory to laboratory

Commenting on cholesterol testing, Prof Vermaak said, “When it comes to measuring HDL and LDL levels, methods used in laboratories vary from one to the other. Methods used in private and public pathology laboratories should be standardised countrywide to the benefit of the patient and in the interest of science.

“The results of lipid tests mean nothing if methods vary from laboratory to laboratory. Until all laboratories standardise methods, the only way we can ensure scientifically accurate appraisals is by sending patients to the same laboratory time after time.”

Lipid lowering drugs to be used for at least six months

He added that patients should be given at least six months on a particular drug, provided they have been on a diet and have been compliant. If there is no improvement after this, therapy should be changed. He added, “Different drugs should be administered depending on the lipid abnormality.”

Total cholesterol not to be looked at in isolation

He also said, “Total cholesterol should not be looked at in isolation because of the many pitfalls. TC is acceptable *only* if one is looking at vast numbers of patients to identify patients at risk. However, in the case of individual patients, total cholesterol is not as significant as a full lipid profile, which is a vital element of treatment.”