

Drug Use Evaluation of Lipid-Lowering Agents

Sukhyang Lee, Pharm.D.

Graduate School of Clinical Pharmacy, Sookmyung Women's University, Seoul, Korea

The elevated cholesterol is a major cause of coronary heart disease (CHD) and lipid-lowering therapy has shown to reduce risk for CHD. The National Cholesterol Education Program (NCEP, USA) periodically updated clinical guidelines for cholesterol detection and management. Adult Treatment Panel defined the categories of risk and showed corresponding LDL-cholesterol goals and lipid-lowering therapy. Persons at relatively high risk are candidates for drug treatment in addition to life style changes. Drug therapy is the major expense of lipid-lowering therapy. The response to therapy should be assessed to achieve the LDL cholesterol goal and to prevent the side effects.

We evaluated the use of lipid-lowering agents in Seoul Municipal Boramae Hospital. A total of 176 outpatients on lipid-lowering agents (lovastatin, simvastatin, gemfibrozil and cholestyramine) from January 1997 to December 2000 were reviewed for the treatment period of one year, retrospectively. The criteria of drug use evaluation were based on the standard of the American Society of Health-System Pharmacists and were modified to meet our hospital settings.

As results, the criteria for the justification of use were appropriate in 86.4% of cases. In analyzing critical indicators, the statins were the first medication in 88.1%. Selection of drugs were based on the individual lipid profile of LDL, HDL and TG, but it should be improved in the subgroup with very high LDL (65.6%) or low HDL (57.1%). The appropriateness was low in performing laboratory tests for monitoring side effects, follow-ups for measuring serum cholesterol levels, instructions on lifestyle changes and drug information. The follow-up assessment was appropriate in 43.8%. Liver function test was carried only in 35.4% of patients on the statins. The main complications were gastrointestinal effects which were found in 31 patients (17.6%). In outcome measures, 69.3% of patients and only 41.7% of patients with coronary heart disease achieved the LDL goal. It was necessary to intensify to lower LDL cholesterol level of 100 mg/dl or lower in patients with coronary heart disease considering clinical importance of secondary prevention.

Adherence to guidelines and criteria of lipid-lowering agents by patients and providers is a key to maximize the benefits to achieve the highest levels of CHD risk reduction. Thus, the multidisciplinary intervention should target the patients, providers and health delivery systems to achieve the full effectiveness of lipid-lowering therapy for primary and secondary prevention of CHD.

Key Words: Hyperlipidemia, Drug use evaluation, Lipid-lowering therapy