Lipid-modifying drug

Available lipid modifying drugs used in the management of dyslipidemia include 3-hydroxy-3-methyl-glutaryl-CoA reductase inhibitors (statins), the cholesterol absorption inhibitor, ezetimibe, and bile acid sequestrants (BAS).

A polypill-type strategy for primary prevention was first published at the turn of the century and advised that a multi-ingredient pill applied to an adult population would prevent up to 80% of cardiovascular and stroke events. Such a pill should contain small doses of antihypertensives, lipid-lowering drugs, and some nutrients. The startling increase of the global stroke burden has led to a revival of this concept and the propagation of a population-based prevention strategy. Recent cardiovascular fixed-dose combination trials have shown a significant effect in reducing not only blood pressure and cholesterol levels but also in reducing cardiovascular and stroke events. In most of the studies, the study population was for secondary prevention and the total number of strokes was small. Nevertheless, it is now clear that a large proportion of primary prevention must take this path. It is especially promising when combined with community health workers interventions for modifying risk behavior. While a polypill-type approach seems most efficacious in underserved regions of high-income countries as well as in low- and middle-income countries, it seems to have a large overall effect in spite of some problems with nonadherence or potential side effects. It should be available and affordable for large target populations. Larger phase 4 studies are under way [1)].

Genetically determined HDL-C and LDL-C reduce the risk of intracranial aneurysm and rIA. The effects of different lipid-modifying drugs on IA need to be further investigated [2)].

1)
Brainin M, Teuschl Y, Martins S. Polypill: Benefits Seen for Stroke and Other Outcomes. Stroke. 2022 Jun 21:101161STROKEAHA122037313. doi: 10.1161/STROKEAHA.122.037313. Epub ahead of print. PMID: 35726621.

2)
Zhang B, Dong S, Miao Y, Song G, Yuan F, Liu L, Xia S, Qin Y, Huo X, Wu Z, Miao Z, Mo D, Liu A; International Stroke Genetics Consortium (ISGC) Intracranial Aneurysm Working Group. Effects of blood lipids and lipid-modifying drugs on intracranial aneurysms. Eur J Neurol. 2022 Jun 21. doi: 10.1111/ene.15471. Epub ahead of print. PMID: 35726534.