

&lt;S14-6&gt;

## Current Hurdle and Future Solution of Research about Lipid and atherosclerosis in Korea

Sang-Hak Lee  
Yonsei University, Korea

Research in lipid and atherosclerosis, including basic, translational and clinical studies, has remarkably contributed to modern cardiovascular prevention. Although it has been upgraded in Korea as well as in many other second mover countries, several points are worth mentioning about our current hurdles on it.

Since widespread clinical use of current lipid lowering therapy, there have been few new successful therapeutics (except recently introduced PCSK9 inhibitors) that showed evidence of additional clinical benefit. Thereafter, many researchers and companies to shift their research focus out of lipid to other topics. With regard to clinical research on lipid and atherosclerosis, one issue needs to be solved particularly in Korea. To date, we do not have nationwide used risk calculator for primary cardiovascular prevention. This is an important limitation for further research as well as a task in this field. Conducting clinical trials is getting harder these days, partly due to more regulation by the government of Korea. Thus, studies using large data (so called big data) are recently getting more and more popular. Although this sort of data have several fundamental limitations, these studies are expected to generate considerable amount of products for a while:

because we have unique system and large data of national health insurance and survey, whereas we have many hurdles for classical research.

Compared to other field of medical research, that of lipid and atherosclerosis has limitation in using new -omics technologies. It was not only due to pathophysiology vascular disease that is typically multifactorial, but also due to difficulty in obtaining tissues compared to other disease such as cancers. In addition, the complexity of its natural history often makes communication difficult between basic and clinical researchers. In the field of basic research, shortage of high quality jobs and uncertain future of advanced scientists educated for long time make young students to avoid the research. This is a story not limited to lipid and atherosclerosis but to all biomedical fields.

Although it is controversial, the size of total research fund of our country is rising and sometimes accepted greater compared to those of other Asian countries. However, a large portion of it is allocated to fashionable topics, such as artificial intelligence, dementia, and precision medicine. More consistent, far-sighted, and translational science-centered distribution of fund seems desirable.