## **CURRICULUM VITAE**

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일차예방요법, 성차의학, 동맥경직도, 사회경제적수준과 심혈관질환

#### [논문]

- 1. Association between arterial stiffness and autonomic dysfunction in participants underwent treadmill exercise testing: a cross-sectional analysis. Sci Rep. 2024 Feb 13;14(1):3588.
- 2. Influence of Socioeconomic Status on the Presence of Obstructive Coronary Artery Disease and Cardiovascular Outcomes in Patients Undergoing Invasive Coronary Angiography Healthcare 2024, 12, 228
- 3. Association between invasively measured central aortic pulse pressure and diameter of ascending aorta. Sci Rep 2023;13:21152.
- 4. The Prognostic Value of Arterial Stiffness According to Socioeconomic Status. J Clin Med 2023 Nov 6;12(21):6943.
- 5. Prognostic value of brachial-ankle pulse wave velocity according to subjects' clinical characteristics: data from analysis of 10,597 subjects. J Korean Med Sci 2023 Dec 25;38(50):e414.



# The role of bempedoic acid in patients with high cardiovascular risk and statin intolerance

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Cardiovascular disease (CVD) stands as the foremost cause of mortality globally. Atherosclerosis plays a central role in CVD development, with high levels of low-density lipoprotein cholesterol (LDL-C) being a key factor in its onset and progression. In response, the HMG-CoA reductase inhibitor, known as statins, was developed, demonstrating substantial efficacy in lowering LDL-C and significantly reducing cardiovascular risk. Present guidelines, underscored by robust evidence of statin effectiveness, advocate for the employment of high-intensity statins to diminish LDL-C and cardiovascular risk, particularly among individuals at high risk. Nevertheless, the application of high-intensity statins in real-world settings is often hampered by side effects, including muscle symptoms, hepatotoxicity, and the onset of diabetes mellitus. The low tolerance for statins frequently leads to reduced adherence to therapy, resulting in less than ideal

cholesterol management. Ezetimibe, in combination with statins, provides an added LDL-C reduction effect, leading to its increasingly widespread use. Yet, there is a continuing need for more effective and tolerable treatment alternatives. Although PCSK9 inhibitors are significant for their additional LDL-C lowering capabilities, their invasive nature and high cost restrict their broad application. Bempedoic acid, an oral medication, targeting the ATP citrate lyase enzyme crucial in cholesterol synthesis, offers a liver-specific action, thereby avoiding muscle-related side effects. In high-risk cardiovascular disease patients who are on the maximum tolerated statin dosage, adding bempedoic acid as opposed to a placebo has shown to significantly reduce LDL-C levels and the rate of major adverse cardiac events (MACE). Bempedoic acid is particularly beneficial for patients who are unable to tolerate statins due to adverse effects such as muscle pain.