



Why should you not overlook the postoperative evaluation of steno-occlusive arterial disease for coronary artery bypass graft patients?

Jong Hyun Baek¹, Haeyoung Lee²

¹Department of Thoracic and Cardiovascular Surgery, Yeungnam University Medical Center, Yeungnam University College of Medicine, Daegu, Korea

²Department of Thoracic and Cardiovascular Surgery, Kosin University College of Medicine, Busan, Korea

See "Incidence of arterial steno-occlusive disease and related factors in patients undergoing coronary artery bypass graft surgery" by Seong Gyu Kim, Geun Woo Lee, Chul Ho Lee.

Atherosclerosis is a systemic disease. The pro-inflammatory stimulations such as high saturated fat diet, obesity, hyperglycemia, hypertension, smoking, etc., trigger the inflammatory process, which initiate macrophage and T-cell infiltration into vascular wall. This endothelial injury enhances the monocytes penetrating into intima and then the monocytes are transformed to scavenger cells which engulf cholesterol, building up a fatty streak. As other cells are accumulating around fatty streaks, they grow into plaque [1].

Coronary artery disease (CAD) is a well-known illness of atherosclerosis. Also, cerebrovascular disease (CVD) and peripheral artery disease (PAD) belong to the same spectrum of atherosclerosis [2]. CAD or CVD was accompanied with PAD more frequently than without PAD [3]. Therefore, PAD can be one of the sensitive markers or harbingers of CVD as well as CAD [4]. Above all, patients with steno-occlusive artery disease (SOD) were more likely to experience high cardiovascular mortality [5].

Despite all, clinical issues are clinician's attitude with ignored or missed diagnosis, inappropriate treatment, and

growing prevalence of SOD in the present.

First, there remains the late diagnosis. Though there are pathologic lesions in some vasculatures, they can be sometimes underestimated due to asymptomatic or nonspecific symptoms. Bonacchi et al. [6] reported that the prevalence of PAD in patients after CAD treatment was 40%, whereas the prevalence of CAD undergone PAD surgery is 78%. In those cases, patients cannot undergo the best treatment due to failure of early diagnosis so that they can be the unavoidable victims of life-threatening complications derived from CAD or CVD. Therefore, more accurate and earlier diagnosis of SOD should be the challenging issues for clinical experts. In other words, clinicians should carefully evaluate patients for comorbidities both before and after attempting coronary artery bypass graft (CABG).

Second, there is a tendency in which SOD is treated more unsatisfactorily than CAD [4]. In other words, when physician's attention focused on CAD, there is a progressive SOD with the same pathology of CAD and then this can result in cardiovascular mortality in the end. Several studies report-

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Corresponding Author: Haeyoung Lee, MD, PhD

Department of Thoracic and Cardiovascular Surgery, Kosin University College of Medicine, 262 Gamcheon-ro, Seo-gu, Busan 49267, Korea
Tel: +82-51-990-6126 Fax: +82-51-990-3066 E-mail: ansovinus0703@gmail.com

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ed that PAD is a well-known factor of poor short-term and long-term prognosis in patients undergoing CABG [6]. Even though manifestations are subclinical, PAD can increase the risks of cardiovascular events, stroke, acute renal failure, limbs ischemia, and mortality after CABG. The randomized on/off bypass (ROOBY) trial interested in the preoperative risk factors associated with post-CABG health-related quality of life (QoL). This ROOBY trial pointed out diabetes, smoking, chronic obstructive pulmonary disease, PAD, history of stroke, and depression as the worsening factors of health-related QoL following CABG [7]. As well as the minimization of related complications from CAD or CVD, desirable treatment results for CAD also will be guaranteed by application of the well-known treatment for noticed SOD; reduction of cholesterolemia, antiplatelet therapy, anticoagulation, peripheral vasodilators, high blood pressure management, physical exercise therapy, smoking cessation, alcohol reduction, lower-fat diet, etc.

Third, SOD has been one of relatively more common diseases in the future than now, which cause life quality decreased and requires more expenses for medical services globally [8]. So many researchers have been trying to reveal the clinical relationship and disparities between CAD and SOD [9]. On that point, we think that the subject covered in this target article is that authors emphasize the importance of diagnosis and treatment of SOD related with CAD and the warning to clinicians taking SOD more lightly than CAD.

In this issue of *Kosin Medical Journal*, Kim et al. [10] investigated that the incidence rate of SOD at another vasculatures in patients underwent CABG was 19.1%. Especially, the most commonly involved vessel was cerebral artery as 38% of them implying the importance of SOD due to vital issues. PAD was accompanied 2nd most commonly in 32% of them which suggested the inverse concept that the earlier you make accurate diagnosis of PAD, the earlier CAD or CVD can be diagnosed without missing.

Authors renewed the diagnosis and the progression of SOD which undoubtedly coexisted with CAD, not by the preoperative, but uniquely by the postoperative evaluation after CABG, resulting the importance of postoperative evaluation and management of SOD.

As mentioned in discussion, it is so pity that the evaluation for diagnosis of SOD could not be initiated until patients complained any symptoms. Therefore, we should pay attention to these patients postoperatively as well as

preoperatively by the monitoring and the active treatment in correlated clinical departments under the conviction that SOD is inevitable.

They insisted that multidisciplinary approach to these groups is essential for the professionalism and concentration on follow-up in regard to the risk factors of deteriorated renal function, hypercholesterolemia, and diabetes complications.

Dealing with study limitations, authors acknowledged poorly informative details about different medications affecting clinical results. We would like to suggest review of patient information about hemoglobin A1c level, dialysis and the preoperative ankle-brachial index at least. It might be more helpful to understand what the authors' saying. In addition, prognosis after postoperative medications and more accurate modality for early diagnosis after CABG should be addressed.

As the whole world goes by in the aging era, this study would be one of appropriate triggers leading a more various and attractive study idea, because the special issue focused on vascular deterioration might be required.

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ORCID

Jong Hyun Baek, <https://orcid.org/0000-0001-6430-0035>

Haeyoung Lee, <https://orcid.org/0000-0003-4972-3608>

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