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Editorial

The use of Cilostazol in Diabetic Patients

Editorial

The International Diabetes Federation (IDF) reported that the global prevalence of diabetes (DM) in adults was 8.3% in 2013 expecting to rise beyond 592 million by 2035 with a 10.1% global prevalence [1]. Guidelines have been published for the treatment of this major disease and its complications [2,3].

Recently, cilostazol has been proposed for the treatment of diabetic patients and their complications. Cilostazol is a selective inhibitor of phosphodiesterase type 3 that appears to have both antiplatelet and anti-proliferative effects [4]. Cilostazol inhibits platelet aggregation in response to ADP, epinephrine, collagen and arachidonic acid, and suppresses the production of platelet derived endothelial cell growth factor [4].

Many recent publications have highlighted the important role of cilostazol in the treatment of diabetes and its complications. It has been suggested that cilostazol may effectively attenuate the severity of peripheral arterial disease (PAD) in patients with type 2 diabetes [5]. Thus, cilostazol may increase skin oxygen supply assessed by transcutaneous oxygen pressure measurement, enhance collateral blood flow,* and promote angiogenesis** in diabetic patient with lower limb ischemia [6]. Additionally, cilostazol appears to have a lowering effect on MMP-9 levels (biochemical marker implicated in chronic wounds) and this may suggest a beneficial effect regarding the prevention or retardation of the onset of foot ulceration in diabetic patients [7]. Even in those patients undergoing lower limb revascularization, the use of cilostazol has improved 1-year freedom from lower limb amputation [8].

The use of cilostazol may have an important clinical application on carotid disease. It has been observed that the progression of carotid intima-media thickness (IMT), which is a prognostic atherosclerotic factor, had the lowest rate in patients who were on cilostazol even after the adjustment for other metabolic parameters [9]. This effect of cilostazol was also highlighted in the Diabetic Atherosclerosis Prevention by Cilostazol (DAPC) study; a randomized trial, which showed that cilostazol potentially induces regression of carotid atherosclerosis in patients with type 2 DM [10]. Additionally, it seems that cilostazol may play a role also in the treatment of cognitive impairment in diabetes mellitus-induced dementia [11].

In patients with type 2 DM, antiplatelet therapy is very important especially in those undergoing intracoronary stenting, and the most commonly used therapy has been the dual antiplatelet therapy (DAPT) consisting of aspirin and clopidogrel or the triple antiplatelet therapy (TAPT) consisting of aspirin, clopidogrel and cilostazol.12 Recently, it has been published that major adverse cardiac effects have been significantly decreased in the triple group, thus TAPT appeared to be more effective than DAPT in type 2 DM patients after intracoronary stenting [12]. It is of interest that adjunctive treatment with cilostazol in type 2 DM patients on standard dual antiplatelet therapy might be a more effective strategy for overcoming clopidogrel resistance than clopidogrel doubling treatment [13].

Additionally, cilostazol might play a role in the treatment of renal function deterioration in diabetic patients. In a recent randomized, placebo-controlled trial, it was shown that cilostazol may effectively attenuates deterioration of albuminuria in patients with type 2 diabetes [14]. Thus, cilostazol may have a renal protective effect in diabetic nephropathy [15].

The recent literature highlights the role of cilostazol in the treatment of diabetic patients on a multilevel approach, thus it may be used in clinical practice. However, it is very important that future prospective studies have to incorporate the use of cilostazol in the treatment of diabetic patients in order to evaluate its efficacy and safety.

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