FOLIA MEDICA
INDONESIANA
Vol. 43 No. 2 April - June 2007

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Abstract

On the basis of clinical experiences, 5 (five) “Satan Vicious Circles” in diabetic nephropathy (DN) are summarized. These vicious circles should be well recognized to understand the pathogenesis of DN, and to perform its rationale treatment. The 1st “Satan Circle”: hypertension –– proteinuria –– glomerular injury –– and then to hypertension again. The 2nd “Satan Circle”: GLUT-1 –– glucose –– TGF- β –– and then to GLUT-1 again. The 3rd “Satan Circle”: AII –– TGF- β –– PAI-1 –– and then to AII again. The 4th “Satan Circle”: AII –– PKC –– AI –– and then to AII again. The 5th “Satan Circle” or the “Deadly Satan Circle” (frequently happens in hemodyalized-patients). Dialysate, Membrane, and AOPP: these three components altogether stimulate the production of cytokines (VCAM1, MCP1, etc) &ndash;&ndash; NADPH oxidase &ndash;&ndash; increased ROS and RONS production &ndash;&ndash; activated NFkb/API/MAPK &ndash;&ndash; and then to cytokines (VCAM1, MCP1, etc) again. ROS and RONS also stimulate the production of MMP9. On the basis of clinical experiences in Surabaya, &ldquo;DHA-LiCOAR&rdquo; (Diabetes, Hypertension, Albuminuria &ndash; Lipid, Cigarette, Obesity, Antiplatelet, Renal replacement therapy) can be used as practical guideline for the treatment of patients with DN. MARVAL and VALUE are the two landmark studies of valsartan which favours microalbuminuria reduction of patients with DN and lower incidence of new-onset of diabetes, respectively. The results of MARVAL indicate a blood pressure-independent antiproteinuric effects of valsartan (blood pressure-independent effect). Compared with amlodipine, valsartan significantly lowered urinary albumin excretion rate of T2DM with microalbuminuria (-8% in amlodipine vs -44% in valsartan treated, p < 0.001). At 24-weeks, valsartan treated patients showed 29.9% reversion to normoalbuminuria compared with 14.5% in amlodipine treated patients (p < 0.001). In the VALUE study, valsartan showed 23% risk reduction of the new-onset diabetes (p < 0.0001). There was no significant difference in the outcomes in hypertensive patients at high cardiovascular risk treated with regimens based on valsartan or amlodipine. Valsartan (a highly selective ARB) improved &ldquo;DHA&rdquo; (the three essential components), and hence this ARB is in favour of the treatment of patients with diabetic nephropathy.

Keyword : DHA-LiCOAR, Valsartan, Five,