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Incidence of stroke among diabetic nephropathy patients: A meta-analysis

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Background and objectives: The association of microvascular complications (diabetic nephropathy) with the stroke is limited because it will require huge sample size of diabetic population with nephropathy and long follow-up period to see the association or development incidence of stroke among these patients. So, we conducted out this meta-analysis of the existing studies to find out the incidence/ risk of stroke among diabetic nephropathy patients and, to find out what amount of extra risk of stroke is associated with diabetic nephropathy patients as compared to diabetic patients without nephropathy.

Methodology: We searched the existing databases from the year 1995 to August 2018 by using the MeSH terms. All cohort, cross sectional studies were searched for, fulfilling the inclusion criteria and as per operational definitions. The quality assessment criterion for quality of studies was already predefined.

Results: Seven studies were found to be eligible for inclusion in the meta-analysis. It was found that the hazards or risk of stroke development among diabetic patients was 3.25 times higher in patients with nephropathy as compared to patients without nephropathy. The pooled hazards ratio of 1.46 (95% CI=0.81-2.60) and of 1.65 (95% CI=0.53-5.11) among diabetic patients with microalbuminuria and macroalbuminuria respectively.

Conclusion: Diabetic Nephropathy patients has a higher incidence and risk of stroke compared to diabetic patients without nephropathy.