

## EGCG - A promising therapeutic stratagem for diabetic nephropathy

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### ABSTRACT

Diabetic nephropathy is characterized by glomerular hyperfiltration, thickening of glomerular basement membrane, mesangial matrix expansion and podocytes effacement that is associated with a decline of glomerular filtration rate and substantial proteinuria. Among the several factors associated with DN, hyperglycemia facilitates podocyte effacement via apoptosis leading to albuminuria. Although, a number of potential treatment strategies exist for diabetic nephropathy, considering the ease of use and bioavailability, phytochemicals stands distinct as the preeminent option. EGCG, a green tea catechin is one such phytochemical which possess hypoglycemic and anti-apoptotic activity. The present study aims to explore the potential of EGCG to prevent apoptosis in high-fat diet and STZ induced diabetic nephropathy in rats by analysing the cellular antioxidants and the protein expression of KIM-1, OPN, NOX2, WT-1 (podocyte specific marker). Our results validate EGCG as a potential anti-apoptotic agent evidently as it improves renal function by bolstering antioxidant status and up regulating WT-1, thereby maintaining the integrity of podocytes and consequently ameliorating diabetic nephropathy. In accordance, EGCG might be regarded as a prospective therapeutic candidate in modulating diabetic nephropathy.