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# Streptozotocin으로 유발된 당뇨병성 신증 쥐에서 EGCG의 치료 효과

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# Therapeutic Effects of EGCG on Streptozotocin-Induced Diabetic Nephropathy in Mice

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**Background:** Diabetic nephropathy is one of the most serious complications in diabetes mellitus and has been the most common cause of end-stage renal disease. Osteopontin (OPN) is a large phosphoglycoprotein adhesion molecule, and has emerged as a potentially key pathophysiologic contributor in diabetic nephropathy.
Green tea extracts have antioxidant properties, and (-)-epigallocatechin 3-O-gallate (EGCG) is known to be the most potent in green tea. We examined whether EGCG could amelliorate the development of diabetic nephropathy and its role of OPN.
**Methods:** Mice were injected intraperitoneally streptozotocin (STZ, 200 mg/Kg) and induced diabetic nephropathy. After a 8 weeks, EGCG were administrated at dose of 50, and 100 mg/Kg body weight. Serum glucose, BUN, creatinine and urine volume, protein, creatinine, Western blot assay of OPN and renal histologic and histochemistry were examinated.
**Results:** STZ-groups were decreased renal functions and increased urine protein amounts. EGCG-treated groups showed suppressed hyperglycemia, proteinuria and the levels of BUN and serum creatinine. Furthermore, EGCG reduced renal OPN accumulation and its protein expression in the kidney cortex as well as associated pathologic conditions.
**Conclusion:** These results suggest that EGCG ameliorates STZ-induced diabetic nephropathy by OPN suppression. The potential use of EGCG in the treatment of diabetic nephropathy should be further explored.

**Key Words:** EGCG, 당뇨병성신병증, 녹차
EGCG, Diabetic nephropathy, Green tea