DISCUSSION
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Present study was carried out in 56 patients of diabetic nephropathy, who were attending diabetic clinic regularly at M.L.B. Medical College, Hospital, Jhansi. Out of 56 patients, 25 patients were included in Enalapril group and remaining 31 patients in Lisinopril group.

ENALAPRIL GROUP

Twenty five patients were included in Enalapril group, 17 were males and 8 were females. Maximum number (40%) of cases belonged to age group 41-50 years. Out of 25 patients, 12 (40%) patients were on oral hypoglycemic agents and rest 13 (52%) were on insulin therapy.

LISINOPRIL GROUP

Thirty one cases were included in Lisinopril group. Out of which, 20 were males and 11 were females. Maximum number (64.58%) of cases belonged to 50-70 years of age group. Out of 31 patients, 16(51.60%) patients were on oral hypoglycemic agents and rest 15 were on insulin therapy.

Maximum duration of diabetes mellitus in Enalapril group was 6-10 years in 15(60%) patients, while in Lisinopril group the maximum duration was 11-15 years in 12(38.71%) patients.
Bjorck Steffen et al (1985) studied the 15 patients of diabetic nephropathy who were insulin dependent and mean duration of diabetes mellitus was 22 years. While in present study short duration of diabetes mellitus could be because of late diagnosis due to illiteracy and poor status, patients report very late to the physician/hospital.

**EFFECT OF BLOOD PRESSURE**

*Enalapril Group*

In oral hypoglycemic group, mean systolic blood pressure at 0 month was 136.0±17.75 mm Hg which came down to 132.0±20.45 mm Hg after 2 months. This change was statistically significant (p <0.05). Similarly the diastolic blood pressure fell from initial 85.0±7.70 mm Hg to 82.33±8.55 mm Hg after two months. This decrease was also significant statistically (p <0.05).

Similarly, significant fall (p <0.05) in both systolic blood pressure (134.46±19.02 to 131.38±15.95 mm Hg) and diastolic blood pressure (82.0±10.65 to 80.46±9.32 mm Hg) was observed in patients on insulin therapy who were given Enalapril.

Ueda, Aoi, Yamachika et al (1990) showed that Enalapril therapy significantly produce a fall in blood pressure, increase the blood flow, produces a change in GFR.

According to Mogensen et al (1991) also ACE inhibitors are effective on systemic hypertension.
Ciavarella and Mutachio et al (1992) observed that administration of Enalapril (5-10 mg/day) in normotensive and hypertensive type I (insulin dependent) diabetic patients resulted in a significant fall in mean arterial pressure.

**LISINOPRIL GROUP**

In oral hypoglycemic group the mean systolic blood pressure fell from $152.13 \pm 27.99$ to $140.38 \pm 23.22$ mm Hg. This change was significant statistically ($p \leq 0.05$), while mean diastolic blood pressure fell from initial $83.89 \pm 15.42$ to $85.38 \pm 8.88$ mm Hg after 2 months therapy and this decrease was also significant statistically ($p \leq 0.05$).

Similarly in insulin group, the mean systolic blood pressure fell from $147.47 \pm 20.97$ to $139.73 \pm 19.34$ mm Hg and this change was significant statistically ($p \leq 0.05$), while mean diastolic blood pressure fell from $85.07 \pm 10.74$ mm Hg to $82.27 \pm 8.65$ mm Hg and this change was also significant ($p \leq 0.05$). In this group 47% patients were having hypertension.

Barkis et al (1994) observed a significant fall in mean arterial pressure after 18 months treatment with Lisinopril in normotensive, insulin dependent diabetic (IDDM) patients.

**EFFECT ON PROTEINURIA**

In Enalapril group, 24 hours urinary albumin excretion in patients on oral hypoglycemic agents fell
down from initial 202.33±249.84 to 180.83±266.80 mg and this fall was statistically insignificant (p > 0.05), while in insulin group mean urinary albumin excretion came down from initial 245.33±256.79 mg/24 hours to 216.30±219.53 mg/24 hours and this difference was also statistically insignificant.

In Lisinopril group, mean urinary albumin excretion in patients on oral hypoglycemic agents fell down from initial 340.00±298.70 mg/24 hours to 278.75±286.25 mg/24 hours and this difference was statistically insignificant (p > 0.05), whereas in insulin group initial mean albumin excretion was 351.87±304.43 mg/24 hours and fell to 220.67±291.71 mg/24 hours after two months therapy and this difference was statistically significant (p < 0.05).

Bauer and Reams (1992) observed that Enalapril therapy was associated with significant initial (46%) and sustained (33%) decrease in proteinuria in their 18 months trial on clinical diabetic nephropathy. They also reported that clinical course of renal disease in type I and type II diabetic patients randomised to Enalapril therapy did not differ.

Barkis et al. (1992), Stornello et al. (1992), Ferder et al. (1992), Ravid et al. (1993) and O'Donnel et al. (1993) also showed that ACE inhibitors reduce the proteinuria in type II diabetic patients with nephropathy.

In other studies viz. Heeg et al. (1989), Bjorck (1992), Marre (1987), Rudberg (1990), Slomowitz (1990),

In this study both Enalapril and Lisinopril were associated with decrease in 24 hour urinary albumin but this decrease was not significant (p > 0.05). In patients on insulin in Lisinopril group, the fall in urine albumin was significant and it may be due to better metabolic control by insulin than oral hypoglycemic agents.

EFFECT ON RENAL FUNCTIONS

Blood Urea

In the present study 12 patients on oral hypoglycemic group treated with Enalapril and 16 patients with Lisinopril. In Enalapril group initially the mean blood urea was 35.08±15.66 mg/dl which fell down to 35.0±13.97 mg/dl after 2 months treatment. This difference was statistically insignificant (p > 0.05). In Lisinopril group, the mean value of blood urea, came down from initial 34.50±11.85 mg/dl to 33.75±10.50 mg/dl and again this difference was insignificant (p > 0.05).

Similarly in insulin group, 13 patients were treated with Enalapril and 15 patients with Lisinopril. In Enalapril group mean blood urea fell down from initial values of 34.62±6.79 mg/dl to 34.48±5.98 mg/dl after two months therapy and this difference was statistically insignificant (p > 0.05). Similarly in Lisinopril group mean blood urea came down from initial mean value of
35.13±8.06 to 34.63±7.64 mg/dl and it was also insignificant statistically (p > 0.05).

Statistically comparison of both drugs shows that effects of Enalapril and Lisinopril are same (p > 0.05) on blood urea.

**SERUM CREATININE**

Same patients were also investigated for serum creatinine before and after 2 months of therapy. In oral hypoglycemic group, patients on Enalapril therapy, the mean serum creatinine increased from 1.23±0.26 to 1.25±0.20 mg/dl but in patients on Lisinopril therapy the values were almost same (1.26±0.33 and 1.26±0.41 mg/dl) before and after 2 months of therapy. The changes were not statistically significant (p > 0.05).

Similarly in insulin group, patients on Enalapril therapy serum creatinine decreased from 1.38±0.20 to 1.35±0.13 mg/dl but in patients on Lisinopril therapy, the mean value decreased from 1.49±0.41 to 1.41±0.29 mg/dl. These changes were statistically insignificant (p > 0.05).

Statistical comparison of both drugs shows that effects of Enalapril and Lisinopril are the same (p > 0.05) on serum creatinine.

On comparing, results showed that effect of Enalapril and Lisinopril on renal function are almost same and it was maintained throughout the study period.