|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Groups | Body weight | Absolute kidney weight (g) | Relative kidney weight (g/100 g bw) | Food intake(g/ 100 g bw/ day | Water intake (mL/rat/day) |
| Initial (g ) | Final(g) |  %Change |
| ControlMPECdCd+MPE | 160.00±1.89158.00±2.16156.00±2.32158.00±1.38 | 174.00±3.52174.00±2.74146.00±2.54171.00±2.53 | 10.68±0.49a11.23±0.50a6.53±0.40b9.57±0.59c | 1.52±0.02a1.90±0.04a1.32±0.01b1.53±0.03c | 0.57±0.05a0.58±0.06a0.41±0.05b0.44±0.04c | 12.15±1.1712.85±1.107.17±0.8510.54±1.18 | 20.16±2.0720.76±2.1014.34±1.5616.58±1.70 |

Table 1. Body weight, absolute and renal kidney weight, food and water intake in control and experimental rats.

Values are given as mean ± SD from six rats in each group. Values not sharing a common superscript letter (a–c) differ significantly at p<0.05 (DMRT)

Table 2. Effect of MPE on cadmium induced alterations in the levels of lipid peroxidation, lipid hydro peroxides and protein carbonyl content in kidney of control and experimental rats.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Groups | Control | MPE | Cd | Cd+MPE |
| TBARS(mg/g tissue)LOOH(mmol/g tissue)PC(nmol/mg protein) | 2.31 ± 0.14a0.54 ± 0.04a1.70 ± 0.12a | 2.19±0.13a0.55 ± 0.05a1.72 ± 0.13a | 4.09 ± 0.35b0.90 ± 0.08b4.50 ± 0.34b | 2.82 ± 0.17c0.72 ± 0.06c2.39 ± 0.18c |

Values are mean ± SD for 6 rats in each group.

 a, b&c Values not sharing a common superscript letter (a,b &c) differ significantly at p<0.05 (DMRT).

Table 3. Effect of MPE and cadmium on the activities of enzymatic antioxidants in kidney of control and experimental rats.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Groups | Control | MPE | Cd | Cd+MPE |
| SODCATGPxGST | 11.72 ± 0.86a52.08 ± 3.19a5.30 ± 0.36a6.12 ± 0.38a | 11.80 ± 0.71a51.32 ± 3.20a5.60 ± 0.52a6.20 ± 0.27a | 7.30 ± 0.57b32.40 ± 2.33b2.55 ± 0.31b2.87 ± 0.33b | 9.54 ± 0.82c 37.55 ± 2.90c4.60 ± 0.34c3.62 ± 0.22c |

Values are mean ± SD for 6 rats in each group.

SOD – one unit of activity was taken as the enzyme reaction, which gave 50% inhibition of NBT reduction in 1 min/mg protein.

CAT – mmol of H2O2 utilized/min/mg protein.

 GPx – mg of GSH consumed/min/mg protein.

GST – mmol of CDNB–GSH conjugate formed/min/mg protein.

a,b&c Values not sharing a common superscript letter (a,b &c) differ significantly at p˂0.05 (DMRT

Table 4. Effect of MPE and cadmium on the activities of Non-enzymatic antioxidants in kidney of control and experimental rats.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Groups | Control | MPE | Cd | Cd+MPE |
| GSHTSHVit. CVit. E | 2.57 ± 0.20a10.29 ±0.75a0.95 ± 0.02a0.64 ± 0.04a | 2.60 ±0.25a 10.50 ± 0.75a0.96 ±0.05a0.68 ± 0.04b  | 1.35 ± 0.98b7.58 ± 0.43b0.54 ± 0.05b0.25 ± 0.03c | 2.25 ± 0.30c 8.09 ± 0.50c0.70 ± 0.02c0.39 ± 0.07c |

Values are mean ± SD for 6 rats in each group.

 a, b &c Values not sharing a common superscript letter (a, b &c) differ significantly at p<0.05 (DMRT).

Table 5. Changes in the activities of renal membrane bound ATPases of control and experimental rats.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Groups | Control | MPE | Cd | Cd+MPE |
| Total ATPaseNa+/K+ATPaseCa2+ATPaseMg2+ATPase |  1.56 ± 0.25a0.63 ± 0.05a0.55 ±0.07a0.68 ± 0.06a | 1.57 ±0.27a0.65 ±0.06a0.56 ±0.05a0.69 ±0.06a | 0.92 ± 0.10b0.32 ± 0.04b0.40 ± 0.04b0.52 ± 0.05b | 1.09 ± 0.16c0.50 ± 0.06c0.54 ± 0.06c0.65 ± 0.06c |

Values are given as mean ± SD from six rats in each group. Values not sharing a common superscript letter (a, b & c) differ significantly at p<0.05 (DMRT). ATPases- µg Pi liberated/min/mg protein.