|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |
| Control  MPE  Cd  Cd+MPE | 160.00±1.89  158.00±2.16  156.00±2.32  158.00±1.38 | | 174.00±3.52  174.00±2.74  146.00±2.54  171.00±2.53 | 10.68±0.49a  11.23±0.50a  6.53±0.40b  9.57±0.59c | 1.52±0.02a  1.90±0.04a  1.32±0.01b  1.53±0.03c | 0.57±0.05a  0.58±0.06a  0.41±0.05b  0.44±0.04c | 12.15±1.17  12.85±1.10  7.17±0.85  10.54±1.18 | 20.16±2.07  20.76±2.10  14.34±1.56  16.58±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 ± 0.14a  0.54 ± 0.04a  1.70 ± 0.12a | 2.19±0.13a  0.55 ± 0.05a  1.72 ± 0.13a | 4.09 ± 0.35b  0.90 ± 0.08b  4.50 ± 0.34b | 2.82 ± 0.17c  0.72 ± 0.06c  2.39 ± 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 |
| SOD  CAT  GPx  GST | 11.72 ± 0.86a  52.08 ± 3.19a  5.30 ± 0.36a  6.12 ± 0.38a | 11.80 ± 0.71a  51.32 ± 3.20a  5.60 ± 0.52a  6.20 ± 0.27a | 7.30 ± 0.57b  32.40 ± 2.33b  2.55 ± 0.31b  2.87 ± 0.33b | 9.54 ± 0.82c    37.55 ± 2.90c  4.60 ± 0.34c  3.62 ± 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 |
| GSH  TSH  Vit. C  Vit. E | 2.57 ± 0.20a  10.29 ±0.75a  0.95 ± 0.02a  0.64 ± 0.04a | 2.60 ±0.25a  10.50 ± 0.75a  0.96 ±0.05a  0.68 ± 0.04b | 1.35 ± 0.98b  7.58 ± 0.43b  0.54 ± 0.05b  0.25 ± 0.03c | 2.25 ± 0.30c  8.09 ± 0.50c  0.70 ± 0.02c  0.39 ± 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 ATPase  Na+/K+ATPase  Ca2+ATPase  Mg2+ATPase | 1.56 ± 0.25a  0.63 ± 0.05a  0.55 ±0.07a  0.68 ± 0.06a | 1.57 ±0.27a  0.65 ±0.06a  0.56 ±0.05a  0.69 ±0.06a | 0.92 ± 0.10b  0.32 ± 0.04b  0.40 ± 0.04b  0.52 ± 0.05b | 1.09 ± 0.16c  0.50 ± 0.06c  0.54 ± 0.06c  0.65 ± 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.