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| **Therapeutic Intervention using Antioxidant and Insulin Sensitizer against Experimentally- Initiated Diabetic Peripheral Neuropathy**  |
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| Abstract:  | With the expanding occurrence of diabetes around the globe it has become necessary to conduct the study on diabetes. With this point, an investigation was started to find out the impact of antioxidant along with insulin sensitizer medication to moderate the frequency of diabetic complication like neuropathy. In the current examination, coenzyme Q10 and metformin were utilized to explore their impact in experimentally-initiated diabetic peripheral neuropathy. So, neuropathy was initiated by injecting of streptozotocin-nicotinamide in rodents. In different arrangements of examinations, rats were treated with coenzyme Q10 alone, metformin alone and their combination. Sciatica nerve function test, for example, paw withdrawal response, tail flick response, muscular grip strength and biomarkers of oxidative stress (MDA, SOD and GSH) were evaluated alongside histopathological examination in all the previously mentioned treated rats. Diabetic control animals showed a significant decrease of muscular grip strength and increase paw withdrawal response, tail flick response when compared with normal control rats. Coenzyme Q10 or metformin or their combination restored nerve damage due to the administration of streptozotocin-nicotinamide. The antioxidant effect of coenzyme Q10 with antidiabetic effect of metformin were accountable for mitigating the nerve harm as well as alteration of biomarkers of oxidative stress along with histopathological changes. It is concluded that co-administration of coenzyme Q10 and metformin showed a more neuroprotective as well as antioxidant activity then when they were administered singly.  |
| Keyword:  | Peripheral Neuropathy, Coenzyme Q10, Metformin, Paw Withdrawal Response, Muscular Grip Strength  |
| DOI:  | <https://doi.org/10.31838/ijpr/2019.11.04.522> |