عنوان مقاله:

The Effect of Low-Level Laser therapy and Curcumin on the Expression of LC۳, ATG۱۰ and BAX/BCL۲ Ratio in PC۱۲ Cells Induced by ۶-Hydroxide Dopamine

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خلاصه مقاله:

Abstract Introduction : Parkinson's disease (PD) is one of the most common neurodegenerative disorders. The neuroinflammation in the brain of PD patients is one of the critical processes in the immune pathogenesis of PD leading to the neural loss in the substantia nigra. Due to the anti-inflammatory effects of curcumin (CU) and low-level laser therapy (LLLT), we examined the protective effect of CU and LLLT on PC۱۲ cells treated with ۶-hydroxydopamine (۶-OHDA) as a Parkinson model.Methods : PC۱۲ cells were pretreated using various concentrations of ۶-OHDA for ۲۴ hours to induce oxidative and cellular damages. PC۱۲-۶-OHDA cells were co-treated with CU and LLLT. The effects of CU and LLLT on Bax/Bcl۲ and LC۳/ATG۱۰ expression were analyzed by real-time PCR and cell viability was assessed by MTT assay. Cell A Software was used to calculate the length of the Neurite and cell body areas.Results : The results of this study show that the combination of CU dose-dependently and LLLT has a significant neuroprotective effect on cells and cellular death significantly decreases by increasing CU concentration. CU+LLLT decreases Bax/Bcl۲ ratio which is an indicator of apoptosis and it also rescued a decrease in LC۳ and ATG۱۰ expression in comparison with ۶-OHDA group.Conclusion : This study shows that the combination of ۵ μM CU and LLLT has the best neuroprotective effect on PC۱۲ cells against ۶-OHDA by decreasing the BAX/BCL۲ ratio. Keywords : LLLT Curcumin LC۳ BAX/BCL۲ ATG۱۰ ۶-OHDA

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: