عنوان مقاله:

Effect of Gallic acid on human breast cancer cells in presence of low level laser irradiation

محل انتشار:

چهاردهمین کنگره بین المللی سرطان پستان (سال: 1397)

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خلاصه مقاله:

Introduction & Aim: Breast cancer is one of most common neoplastic malignancies in the world. Gallic acid (GA) as plant phenolic compound possesses potential antitumor activity on different types of malignancies. This study investigated effect of GA on breast cancer cell lines alone or in presence of low level laser irradiation. Methods: Human breast cancer cell line MAD-MB-231 was exposed to low level laser at 660 nm wavelength with 3 J/cm2 for 90 second and then the cells was treated with different concentration of GA (0-1000 µg/ml) for 24 hour. In another experiment, first the cells treated by GA and then low level laser irradiation as described above. The cells viability was studied using MTT assay. The morphology of cells was studied using inverted light microscopy. Results: The results showed that low level laser irradiation and then treatment with GA decreased MAD-MB-231 cells survival more than the early treatment with GA and then low level laser irradiation. Conclusion: This study showed that low level laser irradiation alone is not able to kill human breast cancer cells but along with GA, reduced the cell viability. The morphology light microscopy confirmed the MTT result. However, this study suggests that combination therapy with low level laser and GA may have a better effect than GA in treatment of breast cancer.

کلمات کلیدی:

Breast cancer, phenolic compound, Gallic acid, Low Level Laser Therapy (LLLT), Cell viability