

عنوان مقاله:

The effects of combination therapy of artemisinin and Iron Sulfate on pathological changes of Human gastric adenocarcinoma cell line

محل انتشار:

اولین کنگره بین المللی مهندسی بافت و پزشکی بازساختی ایران (سال: 1397)

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خلاصه مقاله:

Introduction Anticancer navigates of artemisinin, traditional Chinese medicine, and different combination therapies with it have been shown in many in vivo and ex vivo experiments such as in leukemia, breast and prostate cancer. The experiments showed that iron and artemisinin cause formation of free radicals and were highly toxic for leukemia and breast cancer cells. Indeed, Iron increased the cytotoxicity of artemisinin toward cancerous cells. **Objectives** The present study is aimed to study the anticancer effects of combination treatment with artemisinin and iron on the human gastric cancer cell line. **Methods** AGS cell line as human gastric adenocarcinoma, was cultivated separately as a monolayer in culture flasks and different doses of artemisinin, with different doses of iron sulfate, were added to the culture media and adhesive cells on the flask's bottom were stained with hematoxylin-eosin for a pathological assay. **Results** The cell damages increased dose-dependently and they were higher in combination treatment groups (Artemisinin with Iron). The pathological changes were observed especially in the groups with high artemisinin concentration as nucleus swelling, cell swelling, and formation of vacuolization. Necrotic changes as nucleus pyknosis were seen too. Changes in groups receiving combination therapy of artemisinin and iron sulfate gradually became more severe by dose increase. **Conclusion** Pathologic studies showed that the cytotoxic effects of artemisinin were in a dose-dependent manner and presence of iron sulfate enhances the artemisinin anticancer potency and have synergistic effects against cancerous cell line.

کلمات کلیدی:

Human gastric cancer cell line, Alteration, Artemisinin, Iron sulfate

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