

عنوان مقاله:

The synergic effect of glycyrrhizic acid and low frequency electromagnetic field on angiogenesis in chick chorioallantoic membrane

محل انتشار:

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خلاصه مقاله:

Objective: Much attention is paid to angiogenesis due to its mutual role in health and disease. Therefore, the effect of various chemical and physical agents on inhibition of this process has been recently studied. This study was conducted to investigate the synergic effect of glycyrrhizic acid and electromagnetic field on angiogenesis. Materials and Methods: In this experimental study, 44 Ross fertilized chicken eggs were randomly divided into four groups, one control and three experimental. Control group was kept with dimethyl sulfoxide on the eighth day, experimental group 1 treated with 200 gauss, 50 Hz electromagnetic field on the 10th day, experimental group 2 treated with 1 mg/ml glycyrrhizic acid on the eighth day, and experimental group 3 simultaneously treated with glycyrrhizic acid on the eighth day and electromagnetic field on the 10th day. On the 12th day, the images of chorioallantoic membrane samples were prepared using photostreomicroscope and the number and length of vessels were measured. Results: The mean number of vessels in the experimental groups 1 and 3 (29.31 ± 3.60 and 27.43 ± 4.61 , respectively) was not significantly different from that in the control group (29.11 ± 4.76) ($p > 0.05$). The length of vessels in the experimental groups 1 and 3 (52.35 ± 3.25 mm and 54.94 ± 4.70 mm, respectively) decreased significantly ($p < 0.05$) compared with the control group (61.79 ± 6.46 mm). In experimental group 2, both length and number of vessels (54.53 ± 5.85 mm and 23.96 ± 3.94) decreased significantly compared with the control group ($p < 0.05$). Conclusion: Electromagnetic field and glycyrrhizic acid separately led to inhibition of angiogenesis. However, use of electromagnetic field accompanied with glycyrrhizic acid not only did not increase but also decreased the inhibitory effect.

کلمات کلیدی:

Angiogenesis, Glycyrrhizic acid, Electromagnetic Field, Chick chorioallantoic membrane

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