بررسی ارتباط تغییر در مقدار برخی عناصر معدنی و کمیابی با پارگی قلب در موش‌های صحرایی

فاطمه خاکی خطیبی، علی‌بیاتی پونی، ابراهیم منصور و وطن‌خوارد

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خلاصه:

مقدمه و هدف: هدف از مطالعه حاضر بررسی این مطلب است که آیا موش دچار کمبود مس ممکن است یک نمونه برای پارگی قلبی باشد.

مواد و روش‌ها: مطالعه گفتگوی آنلاینی در مورد موارد مورد نظر به کمک نرم‌افزار SPSS انجام شد.

نتایج: نتایج نشان داد که افزایش مقدار کمبود مس باعث نوبت‌های قلبی شد.

کلمات کلیدی: کمیابی کمیابی، مواد معدنی، موش صحرایی، پارگی قلبی

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1391| دوره 16 | شماره 7 | صفحه 653
Study on the relation between the levels of trace elements and minerals with cardiac ventricular rupture in rats

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Abstract:

Background: This study aimed to examine whether the copper-deficient rat might be a model for cardiac ventricular rupture in humans.

Materials and Methods: Male weanling rats were fed diets that were adequate (5.7 mg/kg diet) or deficient (0.3 mg/kg diet) in copper for 49 days, and 24% of the copper-deficient rats died of cardiac rupture. The autopsy samples of heart and liver were obtained from rats who died of cardiac rupture or controls who died of noncardiac causes.

Results: Trace element measurements indicated that organ copper concentration was reduced by copper-deficiency in rats, the manganese concentration in organs of copper-deficient rats was higher than that of the controls. Iron concentration was lower in the rats with the ruptured hearts and not different in the ruptured copper-deficient hearts compared to the controls; and liver iron concentration was higher than controls in copper deficiency and was not different from controls in rats with cardiac rupture. Macromineral measurements indicated that: magnesium concentration was lower in ruptured hearts of copper-deficient rats than it was in their respective controls; phosphorus was elevated in both sets of ruptured hearts, as was sodium; and calcium concentration in ruptured hearts of copper-deficient rats was higher than in controls.

Conclusion: The trace element changes, especially for copper, are not associated with cardiac rupture in rats, but similar macromineral changes associated with rupture in copper-deficient rats probably reflect the common endpoint of both conditions, tissue necrosis.

Keywords: Trace elements, Mineral, Rat