

عنوان مقاله:

The Effect of Different Doses of N-acetyl Cysteine on Biochemical and Histopathological Parameters in Kidney of Formalin-treated Mice

محل انتشار:

مجله دانشگاه علوم پزشکی کرمان، دوره 23، شماره 5 (سال: 1395)

تعداد صفحات اصل مقاله: 11

نویسندگان:

Shabnam Mohammadi - Assistant Professor, Neurogenic Inflammation Research Center, Mashhad University of Medical Sciences, Mashhad, Iran

Fatemeh Safari - Student of midwifery, Student Research Committee, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Zahra Seyedi - Student of midwifery, Student Research Committee, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Elaheh Seyed Hosseini - Student of midwifery, Student Research Committee, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Faezeh Karimi - Student of midwifery, Student Research Committee, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Maryam Mohammadi - Assistant Professor, Department of Public Health, Faculty of Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Mehdi Karimi - Assistant Professor, Department of Clinical Sciences, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Ali Delshad - Lecturer, Department of Nursing, Faculty of Nursing, Gonabad University of Medical Sciences, Gonabad, Iran

Hossein Abtahi - Lecturer, Department of Basic Sciences, Faculty of Medicine, Gonabad University of Medical Sciences, Gonabad, Iran

Fatemeh Mohammadzadeh - Assistant Professor, Department of Urology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

خلاصه مقاله:

Background and Aims: Formaldehyde, a colorless aldehyde with pungent odor, has negative effects on systems of the body. Considering, there are a little data about protective substances against kidney damage induced by formaldehyde, the aim of the present study was to examine the effects of different doses of N-acetyl cysteine on

biochemical and histopathological parameters in kidney of mice exposed to formaldehyde. Methods: A total of ۴۸ adult male mice were randomly divided into six groups. Control group did not receive any injection. Formaldehyde group received ۱۰ mg/kg formaldehyde. Third to sixth groups received ۱۰ mg/kg formaldehyde as well as respectively ۵۰, ۱۰۰, ۲۰۰ and ۴۰۰ mg/kg N-acetyl cysteine, intraperitoneally. After ۱۴ days, slides from kidney were prepared and kidney volume and glomerules number were obtained by steriologic method. Besides, levels of serum urea and creatinine were measured. Data were analyzed through SPSS software and using ANOVA. Results: Administration of formaldehyde has caused necrosis, cast and vacuolization in kidney tubules. Collapse and sclerosis were observed in the glomeruli. Effects of N-acetylcysteine were dose-dependent; that is, administration of high doses of N-acetylcysteine caused glomerular and tubular damage. In the group received ۵۰ mg/kg N-acetylcysteine, glomeruli and interstitial tissue were normal. The glomerular volume and urea levels in the experimental group ۳ and ۶ were significantly different compared to the control group ($P = ۰.۰۰۰$). The number of glomeruli and the level of creatinine in the groups receiving N-acetylcysteine was significantly different compared to the control group ($P = ۰.۰۰۰$). Conclusion: Administration of ۵۰mg/kg N-acetyl cysteine for ۱۴ days caused protective effect on kidney tissue of mice that had received formaldehyde.

کلمات کلیدی:

Formaldehyde, Kidney damage, Mouse, N-acetyl cystein

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1583251>

