

## عنوان مقاله:

The effect of Intravenous Injection of Dextran-coated Iron oxide Nanoparticles on The Morphology and Histology of Rat Embryos

## محل انتشار:

دومین همایش بین المللی افق های نوین در علوم پایه و فنی و مهندسی (سال: 1398)

تعداد صفحات اصل مقاله: 17

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## خلاصه مقاله:

Regarding too many applications of iron oxide nanoparticles in biological fields, few studies have done due to the effects of these materials on animals. The aim of this study was evaluation effects of these nanoparticles in rat embryos. In this study, 21 pregnant female rats were randomly divided in to 3 groups. Experimental group was intravenously injection dextran coated iron oxide nanoparticles 2 mg/kg concentration on the 8 day of pregnancy. The first control group received distilled water and second control group received dextran solution. On the fifteenth day of pregnancy, rats were anesthetized with chloroform and the fetuses were removed from uterus. Were fixed in formalin processed, sectioned and stained with Hematoxylin-Eosin and Prussian blue. Also were examined fetal morphological abnormalities. The results showed that no significant differences were shown in the mean of fetal weight and number in all three groups. Mean of Crown-Rump length (CRL) in experimental group were significantly decreased compared to control groups. The accumulation of iron oxide in parenchymal tissues of the brain and eye and fetal liver of experimental group were observed. It seems that iron oxide nanoparticles cross the placenta and enter the fetal organs causing abnormal curvature of the spine and due to iron deposits found in the brain and liver tissues of the embryo, it is likely that these sediments during embryonic and fetal development of the disorder

## کلمات کلیدی:

Iron oxide nanoparticles , Dextran , Embryo , Rat

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