



## Investigation on Teratogenic effects of Aloe Vera extract on Balb/C mice embryos

<sup>1</sup>Sara Darabi , <sup>2\*</sup>Parvin Torabzadeh

<sup>1</sup> M.Sc. Student of Developmental, Department of Biology, Karaj Branch, Islamic Azad University, Karaj, Iran ; <sup>2</sup> Professor Assistant of Developmental, Department of Biology, Karaj Branch, Islamic Azad University, Karaj, Iran.

\*Corresponding : [Torabzadeh@kiaou.ac.ir](mailto:Torabzadeh@kiaou.ac.ir)

### Abstract

#### Backgrounds and Objectives

Nowadays undesirable side-effects of synthetic chemical drugs, turns the attention to usage of herbal drugs. One of these herbal drugs is Aloe vera. Aloe Vera plant is one of the plants that due to many properties such as moisture, antimicrobial, antibacterial, antifungal, antiviral, antioxidant, and anti-inflammatory is used to treat many diseases. But according to the compounds of this plant it was assumed that its use during pregnancy can be dangerous.

#### Materials and Methods

To perform this test, 2.4 g/kg of Aloe Vera extract was injected intraperitoneally to the first experimental group, consecutively on days 3, 4, 5, 6, of pregnancy and to the second experimental group, consecutively on days 7, 8, 9, 10 of pregnancy. Simultaneously with these experimental groups, two control and evidence groups were considered for comparison. All mice were dissected on day 15 of pregnancy, fetuses were removed from uterus and the results were analyzed by one-way Analysis of Variation (ANOVA).

#### Results

In the first experimental group kind of abnormalities such as C shape body, hemorrhage, syndactyly, exohepatic, exoencephaly, umbilical hernia, polyp in hand were seen. Also the weight of the placenta and fetus, Crown-Rump of fetus and placental diameter showed significant decrease ( $p < 0.001$ ). In the second experimental group only some of these abnormalities like C shape body, hemorrhage, syndactyly and polyp were seen. there was a significant decrease in the weight of the placenta and fetus ( $p < 0.001$ ) and there was decrease in placental diameter ( $p < 0.05$ ) but no significant change is seen in Crown-Rump of fetus compared to the control group. Additionally, abnormalities such as bleeding under the skin, body C-shaped, syndactyly, and polyp were seen in both of the experimental groups.

#### Conclusion

According to results of this research we can conclude that Aloe Vera which acts as a teratogen can be dangerous during pregnancy.

**Keywords:** Aloe Vera , pregnancy , abnormality, Balb / C mice .