عنوان مقاله:

The effect of aqueous-alcoholic leaf extract of Ducrosia anethifolia on the placental and umbilical cord tissue in pregnant diabetic rats

محل انتشار:

بیست و یکمین کنگره ملی و نهمین کنگره بین المللی زیست شناسی ایران (سال: 1399)

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خلاصه مقاله:

Awareness of the properties and side effects of herbal medicines is important especially during the critical period of pregnancy. In this study, the effect of aqueous-alcoholic leaf extract of Ducrosia anethifolia on the placental and umbilical cord tissue structure in pregnant diabetic rats was investigated. For this purpose, ۴۸ rats (۲۲۰-۲۰۰g) were fertilized and divided to non-diabetic groups include control, recipient of Meshgak, and ۴ diabetic groups include untreated diabetic, using Glibenclamide (۵mg/kg/bw) and the groups which treated with ۱cc of the Meshgak extract (۵۰۰ &۱۰۰۰mg/kg/bw) by gavage for ۲۰ days. The rats became diabetic by single-dose injection of streptozotocin (۸۰ mg/kg/bw). At the end of the treatment, blood samples were taken, and glucose and insulin were measured in rat's serum. Then the removed embryos and placenta and umbilical cord were measured with a caliper. The sections of placental and umbilical cord tissue (۵µm) were prepared, and their slides were stained. The desired parameters were measured with image analysis software and their tissue changes were examined. The data were analyzed by statistical software SPSS(۱۷) and compared with Tukey test. The results showed a significant decrease in maternal insulin concentration, maternal and fetal weight, and increase in blood glucose and placental weight in the untreated diabetic group, but improvement was observed in treated groups with Meshgak extract and the group consuming Glibenclamide. Histological study showed that increasing the thickness of layers and the number, diameter and volume of placental cells (Glycogen and Giant cells) in the diabetic group decreased with using Meshgak extract in the treatment groups. Cell destruction and irregularities in the vascular endothelium due to diabetes were observed. According to obtained results, Meshgak extract with the same results as Glibenclamide has reduced maternal blood glucose, so it has slightly improved diabetes-related complications in these tissues.

کلمات کلیدی:

Insulin, Glibenclamide, blood glucose, Glycogen cell