Effects of Folic Acid, N-acetyl Cysteine and Insulin and their Combinations on Ovarian Histology in Alloxan Induced Diabetic Pregnant Rats

Lana S. Salih  
Department of Biology  
College of Science  
Salahadiin University

Kusai A. Al-Chalabi  
Department of Biology  
College of Science  
Mosul University

Hamad J. Jumaa  
Department of Biology  
College of Science  
Mosul University

(Received 30/4/2009; Accepted 19/10/2009)

ABSTRACT

In this study, 192 healthy pregnant rats weighting about 200-250 grams were used. The animals were housed under standard laboratory condition (12h dark and 22±2°C). The animals were given standard rat pellets and tap water ad libitum.

Normal female rats mated with normal males. The first day of gestation was detected through vaginal smear for sperms of vaginal plug. Diabetes mellitus was induced by a single subcutaneous injection of 100 mg/kg of alloxan. After four days, rats with blood glucose more than 200 mg/dl were considered as alloxan induced diabetic pregnant, and they were distributed to three periods (1-7, 8-14 and 15-22) days of gestation. Diabetic pregnant rats at each period were divided to eight groups. First group supplemented with standard diet which respect negative control, while the rest groups were treated with 100mg/kg alloxan subcutaneously. In addition to alloxan, third group was treated with 250mg/kg folate and 4 I.U. insulin subcutaneously, group four was daily injected with 7.5mg/kg folate and 4 I.U. insulin subcutaneously, group five was supplemented with 250mg/kg folate, group six was daily injected with 4 I.U. insulin subcutaneously, group seven was supplemented with 0.1% N-acetyl cysteine and 4 I.U. insulin and the rats of the last group were supplemented with 0.1% N-acetyl cysteine. Ovarian sections were prepared during each week of gestation.

Histological examination of ovarian sections revealed less multiple follicles in all treatment groups as compared with positive control. Hemorrhage was seen in folic acid (0.25 mg/kg) and insulin and with n-acetyl cysteine and insulin treated groups. Infiltration of eosinophils was seen in folic acid (250 mg/kg) and insulin groups. From these results it was concluded that the histological sections showed decreasing ovarian follicle number in all treatment groups as compared with positive control.

Keywords: diabetes, pregnancy, ovarian sections.
تُعلاّق كُتُب كُلِّ رِجْلٍ كَأْيُوْرَامٍ بَيْنَ 525-200 لَمَّا تَذُكَّرَهُ الْهَجَابُ 192 تَذِيُّ الْحَجَابِ كَأْيُوْرَامٍ يَذْهَبُ كَأْيُوْرَامٍ وَقِيَّةٌ كَبَيْضٌ كَأْيُوْرَامٌ 22 لَقَدْ فُتِّهَ (الْيَوْمَ الْأَخِرِ 12:12) لَيْسَ 2 أَرْبَعَةٍ أَيْضًا وَحَدًَّا تَتِّرِضَ كُلَّ مَدْتَرُ الْحَمْضُ 250 مَّنْ أَرْبَعَةٍ أَيْضًا وَحَدًَّا تَتِّرِضَ. لَيْسَ 7.5 مَّاَمُّ كَأْيُوْرَامٍ كَأْيُوْرَامٍ لَيْسَ 192 كَأْيُوْرَامٍ رَأَى لَيْسَ 250 كَأْيُوْرَامٍ أَيْضًا لَيْسَ 192 كَأْيُوْرَامٍ رَأَى لَيْسَ 250 كَأْيُوْرَامٍ أَيْضًا لَيْسَ 250 كَأْيُوْرَامٍ رَأَى لَيْسَ 250 كَأْيُوْرَامٍ أَيْضًا لَيْسَ 250 كَأْيُوْرَامٍ رَأَى لَيْسَ 250 كَأْيُوْرَامٍ أَيْضًا. لَيْسَ 250 كَأْيُوْرَامٍ أَيْضًا لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى لَيْسَ 250.1 كَأْيُوْرَامٍ رَأَى Lana S. Salih et al.