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iron deficiency anemia (IDA). The aim of this study was confirmation of this relationship with comparing in two groups: iron deficient (ID) and (IDA). Also we investigate the effect of low normal folate deficiency on this relationship.

Methods: In this prospective cohort study, performed in Mashhad, Iran in 2011, ninety 16-30 years old women, in three groups including ID, IDA and control, were selected. NH was examined in peripheral blood smears by two expert specialists. CBC was done by Sysmex K-21 hematologic analyzer. Colorimetric methods were utilized to measure the serum iron and total iron binding capacity. Serum ferritin as well as Folate and cobalamin were measured by radioimmunoassay method. Data were analyzed with SPSS 11.5 software. $p < 0.05$ was considered to be significant.

Results: 29 ID and 31 IDA and 30 control participants were studied. Chi square test showed statically significant differences between NH and these three groups ($P=0.001$) and decreased serum Iron/Ferritin levels respectively ($P=0.001$). With logistic regression analysis we observed that the relation between NH and ID/IDA is due to low normal folate levels ($p=0.044$). Chi-square test showed that Hct $< 39\%$ and MCV < 80 FL and MCHC < 32 gr/dl and MCH < 27 pg (criteria for hypochrome microcytic anemia), have significant differences with IDA ($p=0.001$) not ID groups.

Conclusions: This study demonstrated that NH appears when iron deficiency is associated with decreasing in Hct, Hb, RBC indices, serum ferritin/iron and low level or latent deficiency of folate. Considering prevalence of IDA in Iran, when facing with NH in preferal blood it is suggested to investigate IDA and latent folate deficiency.

Keywords: Neutrophilic Hypersegmentation, Iron Deficiency, Folate, Anemia, Young Women

P-7-29011 The effects of maternal hyperglycemia and *Launaea acanthodes* extract administration on the volume of the fetal rat kidney

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Background: Gestational hyperglycemia is a state of high blood glucose which is diagnosed during pregnancy. Maternal hyperglycemia is associated with an increased risk of several complications in offspring such as renal disorders. *Launaea acanthodes* is used as a common medicinal plant in central regions of Iran. The purpose of the present study was to investigate the beneficial effects of *Luna acconthodes* administration on the outcomes of gestational hyperglycemia on fetal kidney.

Materials & Methods: Female pregnant rats were randomly divided into 3 groups: intact control without treatment, hyperglycemia and hyperglycemia treated orally with hydro-alcoholic extract of *Launaea acanthodes* leave (150 mg/kg daily from 9th day of pregnancy). Hyperglycemia was induced at 7

th post mating day by a single injection of streptozotocin (55 mg/kg body). On 18th day of pregnancy, fetuses were excluded and processed for histological preparation and then the renal volume was measured by Cavalieri's technique.

Results: The average body weight of fetus in STZ and control groups was not significantly different but in the hyperglycemic group treatment with launea extract significantly decreased. The result showed significant decrease in the kidney volume of fetus in hyperglycemia group but this decrease was improved in hyperglycemic rats treated received extract.

Conclusions: it seems that hydro-alcoholic extract of *Launaea acanthodes* may improve the kidney volume of fetus in Gestational hyperglycemia.

Keywords: Hyperglycemia, Pregnancy, kidney, *Launaea acanthodes*, streptozotocin, Rat.

P-7-32691 Protective effects of vitamin E against vancomycin-induced hepatotoxicity in rats

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Background: Vancomycin (VCM) is a glycopeptide antibiotic which is active against methicillin-resistant *S. aureus* (MRSA) infections. Hepatotoxicity is one of the major adverse effects of this drug. Some recently studies have suggested that oxidative stress is involve in the VCM induced hepatotoxicity. This study was designed to investigate the protective effects of vitamin E as an antioxidant agent, against vancomycin-induced hepatotoxicity in rats.

Material and methods: Twenty four adult male Wistar rats (250-300 g) were divided into four equal groups as follows: control group, VCM, VCM + vitamin E at doses 200 and 500 mg/kg. VCM was administered intraperitoneally in the dosage of 200 mg/kg twice daily for 7 days. Vitamin E was administered orally 30 min prior to i.p. injection of VCM. 12 h after the last injection of VCM, blood was collected by cardiac puncture from all the animals, afterwards, serum was separated from the collected blood and subjected to biochemical measurement of different parameters such as alkaline phosphatase (ALP), alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (TB), direct bilirubin (DB), total protein (TP) and Albumin (Alb).

Results: The activities of AST, ALT, ALP and TB levels were significantly increased and the albumin levels were decreased in serum in VCM treated rats, compared with the control group ($p < 0.001$). Simultaneously, vitamin E at both doses significantly attenuated the increase in plasma activities of these markers ($p < 0.001$). These results were confirmed by histopathological examinations.

Conclusions: It can be concluded that vitamin E may prevent VCM-induced hepatotoxicity by reducing reactive oxygen species.

Keywords: hepatotoxicity, vancomycin, vitamin E, oxida-