OMICS International
conferenceseries.com

J Gastrointest Dig Syst 2015, 5:3
http://dx.doi.org/10.4172/2161-069X.S1.026

4th International Conference on Gastroenterology

July 20-22, 2015 Orlando, USA

Symptom development in patients with irritable bowel syndrome following lactose load is related to high serotonin level in rectal mucosa and SERT polymorphism

Sunil Kumar[1] and **Uday C Ghoshal**[2]
[1]Shri Ramswaroop Memorial University, India
[2]Sanjay Gandhi Postgraduate Institute of Medical Sciences, India

Background: Patients with irritable bowel syndrome (IBS) often report symptoms following lactose ingestion. We found that in spite of similar frequency of lactose malabsorption (LM) and breath hydrogen levels, patients with IBS developed symptoms more commonly than healthy controls, which might be due to visceral hypersensitivity. Hence, we aimed to study; level of serotonin and SERT polymorphism among patients with IBS who developed symptoms following lactose ingestion compared to those who did not develop it.

Method: 150 patients with IBS (Rome III criteria) were evaluated for symptom development following lactose ingestion. Serotonin was estimated on rectal biopsy (ELISA) and SERT polymorphism studied on DNA extracted from venous blood (PCR).

Results: Of 150 patients (age 36.7±11.8-y, 114 [76%] male), 62 (41.3%) developed symptoms following lactose and 88 (58.7%) did not. Serotonin level in rectal tissue was higher among patients with IBS who developed symptoms compared to those who did not (144.8±40.9 vs. 122.7±36.3-pmol/mL, p=0.001). Also, patients with IBS who developed symptoms following lactose ingestion had higher frequency of deletion/deletion (s/s) SERT genotype compared to those who did not [s/s 48/62 (77.4%), s/l 8/62 (12.9%), l/l 6/62 (9.7%) vs. s/s 41/88 (46.6%), s/l 36/88 (40.9%), l/l 11/88 (12.5%), p=0.003, respectively]. Patients with IBS who had deletion/deletion genotype had higher level of serotonin in rectal tissue compared to deletion/insertion and insertion/insertion genotypes (151.1±37.3 vs. 105.0±20.9 vs. 100.9±28.0 pmol/mL, p<0.001, respectively).

Conclusion: Symptom development in patients with IBS following lactose ingestion is related to higher serotonin level in rectal tissue and SERT gene polymorphism.

sunilsbt@gmail.com

Hepatoprotective effect of omega-3 and glycyrrhizin through Nuclear Factor kappa B

Laila A ElSSA[1], **Nada F Abo El-magd**[1], **Amro El-Karef**[2] and **Mamdouh M El-Shishtawy**[1]
[1]Department of Biochemistry, Faculty of Pharmacy, Mansoura University, Mansoura, 35516, Egypt
[2]Department of Pathology, Faculty of Medicine, Mansoura University, Mansoura, 35516, Egypt

NF-κB is a key transcriptional regulator of the inflammatory response and plays an important regulatory role in the development of chronic liver diseases. We investigated the protective effect of glycyrrhizin, omega-3 and their combination on liver fibrosis in rats through their effect on NF-κB by ELISA method and histological analysis of the extent of liver fibrosis and necroinflammatory score.

Materials & methods: 50 Male Wistar rats randomized into 5 groups: Normal control group, TAA group, GL group (received Glycyrrhizin 25 mg/kg by gastric gavage daily started with TAA),ω-3 group(received ω-3 150 mg/kg by gastric gavage daily started with TAA), (GL+ω-3) group(received Glycyrrhizin 25 mg/kg by gastric gavage daily and ω-3 150 mg/kg by gastric gavage daily started with TAA), all groups except normal control group received TAA 200mg/kg i.p twice weekly for 8 weeks.

Results: TAA caused liver fibrosis characterized by highly significant increase in serum AST activity, total bilirubin level, the extent of liver fibrosis and the necroinflammatory score, as well as highly significant decrease in serum albumin, total proteins levels, the fibrotic area and necroinflammatory score (P<0.005). While the GL, ω-3& (GL+ω-3) protected the liver from TAA hepatotoxic effects as they significantly prevented the increase in serum AST activity and total bilirubin level, also they significantly prevented the decrease in serum albumin and total bilirubin levels.. We tried to find the mechanism by which the glycyrrhizin and omega-3 protected the liver, TAA caused markedly high increase in the MDA level (P<0.005), while GL, ω-3& (GL+ω-3) markedly prevented this increase (P<0.005). We also found that the TAA have been markedly increased the nuclear factor kappa B concentration in the liver tissue (P<0.005), while GL, ω-3& (GL+ω-3) highly significantly decreased NF-κB concentration (P<0.005).

Conclusion: these results suggested that NF-κB and oxidative stress have an important regulatory role in development of liver fibrosis. As well as, glycyrrhizin and omega 3 are potent anti-inflammatory, anti oxidative stress and anti fibrotic drugs through inhibition of oxidative stress and NF-κB pathway.

lailaeissa2002@yahoo.com