PLASMA VITAMIN A AND E LEVELS IN PATIENTS WITH DIARRHEA-PREDOMINANT IRRITABLE BOWEL SYNDROME

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Objective: Vitamin A and E are fat soluble vitamins that involved in numerous essential life processes. These vitamins are absorbed from the small intestine in the same way as fat. Conditions or disease interferes with the absorption of fat may also inhibit the absorption of these vitamins. Chronic diarrhea is one of these conditions; it results in fat malabsorption, thus fat soluble vitamins. Irritable bowel syndrome is one of the most common causes of chronic diarrhea. Therefore, we hypothesized that, diarrhea predominant irritable bowel syndrome (IBS-D) may result in low plasma fat soluble vitamin levels. This research was undertaken to test this hypothesis prospectively.

Methods: 44 patients with IBS-D (23 males and 21 females) subtyped based on Rome criteria, and 27 sex and age-matched healthy controls (16 males and 11 females) were involved in this study. Demographic data, diet pattern, and IBS-D symptoms were obtained through filling out a self-guide questionnaire.

Result: Plasma vitamin A levels in male patients with IBS-D were significantly lower than that of the males control group (514 ± 22 vs. 631 ± 40 μg/ml, P=0.007). Plasma vitamin A levels in male patients were found to be negatively influenced by the presence of steatorrhea, duration of the disease, and daily bowel movement. Female patients with IBS-D showed lower vitamin A levels than those of control but not statistically different (445±34 vs. 510±43 μg/ml, P=0.52). Plasma level of vitamin E, cholesterol and triglyceride were slightly affected by the disease in both male and female patients.

Conclusion: The results of this study suggest that, IBS-D is a risk factor for vitamin A deficiency especially in male patients.

Adolescence and Young Females with Severe Dysmenorrhea: are they at Risk of Developing Osteomalacia? A prospective study

Objective: Dysmenorrhea is a common gynecological complaint in adolescents and young females. Previously we observed a strong correlation between dairy products intake and dysmenorrhea. A significantly higher percentage of female students expressing severe dysmenorrhea were found when their intakes of dairy products were none as compared to participants who took three or four servings per day (97% vs. 36%). The majority of the cases of primary dysmenorrhea usually begin during early adolescence. Thus calcium and vitamin D deficiencies during this period of life increase the risk of osteomalacia as well as osteoporosis in older age. This research was undertaken to test this hypothesis prospectively.

Methods: Fifty six female ages between 17 and 24 years with severe and very severe dysmenorrhea were given information regarding demographics besides general assessment of their menstruation and dietary intake of dairy products. Plasma vitamin D, PTH levels were measured.

Results: about 61% of the studied population experience very severe dysmenorrhea. Half of participants had dairy intake less than one serving per day. The majority of participants (80.4 %) had insufficient plasma vitamin D and 48.2 % of them had hyperparathyroidism.

Conclusion: A high prevalence of vitamin D insufficiency and secondary hyperparathyroidism among adolescence and young adult females experience severe and very severe dysmenorrhea may increase the risk developing Osteomalacia.
THE HEPATOPROTECTIVE EFFECTS OF VITAMIN C ON HEPATOTOXICITY INDUCED BY CO-ADMINISTRATION OF ANTI TUBERCULOSIS DRUGS AND ACETAMINOPHEN: A BIOCHEMICAL AND HISTOLOGICAL STUDY

ABSTRACT

Objective: Tuberculosis (TB) is a common curable infectious disease and is the second most common cause of death from an infectious disease in the world. Isoniazide (INH) and rifampicin (RIF) in combination are first line treatment for TB. Acetaminophen is the most widely used over-the-counter analgesic and antipyretic agent in the world. These drugs have a hepatotoxic potential either related to their toxic metabolites or by inducing oxidative stress.

Vitamin C is a powerful antioxidant that can play a vital role in minimizing the damage from oxidative stress. Therefore vitamin C can prevent the oxidative liver damage caused by these drugs when they are coadministered. This research was undertaken to test this hypothesis prospectively.

Method: Three levels of vitamin C were used in this study (50, 200 & 500 mg/kg/day) and administered to Wister rats in combination with INH-RIF and acetaminophen for 30 days. At the end of the experiment, antioxidant enzymes and malondialdehyde (MDA) level were measured in liver homogenate; liver function test and histological examination of rat's liver were performed.

Results: administration of acetaminophen for 30 days produced no hepatic lesions, while INH-RIF (200 mg/kg/day each) with or without acetaminophen (200 mg/kg/day) caused hepatic lesions as indicated by significant changes in all measured parameters were observed. A level of 50 and 200 mg/kg/day vitamin C prevent the necrosis of hepatic cells although other hepatic lesions still present, while a level of 500 mg/kg/day vitamin C apparently acts as a prooxidant, as indicated by significant changes in antioxidant enzymes, MDA level, liver function tests and presence of liver cell necrosis.

Conclusion: low level of vitamin C acts as protective against INH-RIF administration with or without acetaminophen, while supplementation of high dose of vitamin C to rat administrate INH-RIF with or without acetaminophen acts as a prooxidant.