

أبحاث الدكتور شريف صبري رجب مكاوي

Effects on liver and kidney functions and serum lipids of consumption diets supplemented with wheat germ

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Abstract:Wheat germ is the embryo of the wheat kernel and separated from wheat being milled for flour. It is dense in nutrients including protein, oils, vitamins, minerals, fiber and some different types of phytochemicals. With the aim of present investigation, studying the effect of different levels of wheat germ on liver and kidney functions and serum lipids, twenty eight Sprague-Dawley white male albino rats were divided into 7 groups. The control group was fed with the basal diet and the six rest groups were fed with the phytogenic diets, basal diets supplemented with different levels of wheat germ (5, 10, 15, 20, 25, and 30%). The supplementation with wheat germ leads to enhance in liver (GOT, GPT and ALP activities) and kidney (creatinine and urea levels) functions which increased with the increasing of the level of wheat germ supplementation. Groups of rats were received 25 and 30% of wheat germ showed very higher significant decreased ($P < 0.001$) than control group. For blood lipid profile, a very high significant decreased ($P < 0.001$) in total cholesterol, triglycerides, phospholipids, free fatty acids, VLDL-c, and LDL-c and increased in HDL-c for the same groups when compared with the control one. These data suggested that wheat germ feeding is causing significant hypolipidemic effect that associated with feeding level. This finding was interpreted by the abundance of both of sterols and viscous fibers in wheat germ which enhance the effectiveness of diet in lowering cholesterol. Therefore, wheat germ is recommended to be used as natural foods supplement together with the ordinary daily meals for improvement the functions of different organs in the body.

Hypolipidemic and hypoglycemic properties of Anthraquinone-free Aloe vera leaf gel powder in rats

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Abstract: The aim of this work was to investigate the hypoglycemic, hypolipidemic and antioxidant effects of anthraquinone-free Aloe vera leaf gel powder on rats. The hyperlipidemic and diabetic rats were separated into three groups (n=8) as control rat group which fed Aloe vera-free basal diet, group II and III which fed supplemented diet with 0.5 and 1.0% of Aloe vera leaf gel powder in comparison to control normal (non diabetic) rat group. The markers of oxidative stress as superoxide dismutase (SOD), Catalase (CAT), glutathione peroxidase (GPx) and glutathione-S-transferase (GST) were determined in liver and kidney tissues. Biochemical parameters for hemoglobin, glycosylated hemoglobin as well as glucose and lipid profile were evaluated after 12 weeks of feeding course. Aloe vera leaf gel powder was seemed to have potent and powerful hypoglycemic and hypolipidemic activities through dose-dependant fashion. Diabetic rats fed Aloe vera were characterized by increase of antioxidative parameters liver tissues with the treatment of Aloe gel extract. Serum albumin, urea and uric acid were also decreased in the groups given Aloe vera gel powder. It is concluded that there is some preliminary evidence to suggest that oral administration of anthraquinone-free Aloe vera leaf gel might be effective in reducing blood glucose in diabetic patients and in lowering blood lipid levels in hyperlipidaemic cases especially that it has sweet taste.

Role of bovine colostrum supplementation in long term treatment of rickets disease with salmon calcitonin

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Abstract

Sixty six children with symptomatic rickets disease of bone were divided into two groups in comparison to normal control children (n=26). Group I (n=34) treated with salmon calcitonin alone while group II (n=32) treated with salmon calcitonin together with bovine colostrum supplementation (600mg/day). The daily dose of salmon calcitonin for both groups was 80 U/day and was carried out and managed for periods of 12 months. Serum bone-specific alkaline phosphates (BALP), osteoprotegerin (OPG), osteocalcin (bone formation marker), tartaric-resistance acid phosphatase isoenzyme 5b (TRAP-5b), B-crossLaps (CTx) as bone resorption marker and urinary hydroxyproline excretion, which had been elevated before treatment, were decreased significantly by bovine colostrum supplementation. Bovine colostrum supplementation was associated with increased calcium absorption but reduce bone resorption and turnover that did correlate with plasma concentrations of parathyroid hormone (PTH), and variable decreases in pain, heat and stiffness of major joints. The mean endogenous fecal calcium excretion in bovine colostrum-supplemented children group was decreased significantly but there was no significant change in mean urinary calcium excretion. There was consistent effect of bovine colostrum supplementation with calcitonin treatment on bone mineral mass. No serious adverse effects of treatment such as allergic reactions were observed in all of the examined children of both groups. We could conclude that calcitonin appears to be more effective when applied with bovine

colostrum supplementation in all children with Rickets disease of bone.

Infantile Watery Diarrhea Associated with Cryptosporidiosis

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Abstract

Cryptosporidium parvum is recognized as the leading cause of severe parasitic gastroenteritis outbreaks. The antiparasitic (anti-cryptosporidiosis) potency of bovine colostrum was investigated through its incorporation with the daily intake diets for Cryptosporidium – infected children groups. Bovine colostrum was incorporated with the daily diets at different levels of incorporation as 10 to 30 gm.

Bovine colostrum potently inhibited Cryptosporidium parvum through the stimulation of the production of the neutralizing antibodies IgG, IgA and IgM which specifically inactivate and restrict the parasitic growth and multiplication. The anti-cryptosporidiosis potency of bovine colostrum correlated directly to the daily-ingested level. IgG is the most stimulated antibody followed by IgM and IgA as affected by daily intake of bovine colostrum through the dose-dependent manner.

Children who received liquid bovine colostrum had significantly less daily and total output stool frequency rather than children who received oral rehydration

solution alone ($P < 0.05$). Clearance of *Cryptosporidium parvum* from infant stool was earlier in bovine colostrum infant groups through dose dependant manner. Bovine colostrum intake in cryptosporidiosis infected children could be useful tool as a complementary non-antibiotic trend beside the rehydration solution to control children diarrhea associated with *Cryptosporidium* infection.

Role of Ivy Extract "Tusipan" Treatment in Improvement of Mineral Absorption and Immunity Parameters in Infant and Children

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Abstract: Infections of infant and children respiratory tract is most common diseases with different causes. Traditional medicine is commonly used for patients with ischemic stroke world widely, but the efficacy need be further proved. To assess the efficacy and safety of Ivy as one of the most herbal medicine treatment regimen integrating traditional medicine and Western medicine for ischemic stroke patients. A multicenter, randomized and controlled clinical trial was adopted. A total of 135 infant and children with age range of 2 - 6 years with acute ischemic stroke (N= 135) were enrolled in comparison to control group (n=40) whom administered Western medicine. Tested infant and children groups were administered Ivy formulations "Tusipan" once to twice daily. Each dose contains 0.035 g of ivy extract based on dry weight. Both of infant and children patients in two groups were all treated for 21 days. A total of 133 patients completed the trial and a per-protocol set analysis was conducted. There were no statistical differences in hepatic, renal functions, blood profile, immunological parameters and detoxifying enzyme titre amongst all of examined infant groups at baseline ($P \geq 0.05$). Compared with Western medicine alone, Tusipan treatment could improve some mineral absorption (Fe, Ca and Zn) absorption as dose-dependant manner without any sign of toxicity or physiological disorders ($P < 0.05$). Moreover, Ivy extract treatment showed a tendency in improving quality of life at a time-dependent manner. Therefore, the present research demonstrates that the Ivy extract as herbal medicine treatment shows great rate of safety and tolerability over the all ages of infant and children suffered with upper respiratory tract infection.
