

Effect of Vino Gano Ginger and Herbal Liquor on the Haematological Parameters of the Wistar Rats

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Abstract:- The curiosity for men to sexually satisfy women has been on the increase, thereby causing overdose intake of herbal drinks and other substances; which is expressly raising health complications and untimely death during sex. This study is aimed at assessing the haematological parameters of Wistar rats fed treated with *Vino Gano Ginger and Herbal Liquor*. A total of 25 adult male Wistar rats weighing between 115.3 -248.6g were used for this study. Nine[9] out of the 25 Wistar rats were used for Sub- Acute Test [LD₅₀]. The remaining 16 Wistar rats were separated into four groups; each group contain four [4] Wistar rats. Different concentrations of *Vino Gano Ginger and Herb Liqueur* were administered orally to the groups based on their body weight. Group I, received normal feeds and water at libitum. Groups II, III and IV received 5ml/kg, 10ml/kg and 15ml/kg of the *Vino Gano Ginger and Herb Liqueur*. The Wistar rats were sacrificed weekly and blood was collected and analyzed. Results showed reduction in mean values of PCV, RBC of 4th group. Depletion of the mean Total White Blood count in all treated groups [2-4]. There was mean increase in Platelet and Lymphocytes level of the treatment groups 3 and 4 with contrast to the control. Reduction in Neutrophil level of the treatment groups 3 and 4. A rise in Monocytes level in the 4th treatment group. Conclusively, *Vino Gano Ginger and Herbal Liquor* has posed a devastating effect on the wistar rats. The Consumption *Vino Gano Ginger and Herbal Liquor* by man to sexually satisfy a woman is a banquet of plague and index of death.

Keywords:- *Vino Gano, Haematological.*

I. INTRODUCTION

For obvious reasons, it is reasonable to believe that recreational use of erectile drinks and drugs are exceeding medical usage. This is true because there is high curiosity for men to sexually satisfy women, thereby causing overdose intake of these substances; which are expressly raising health complications. Study of the Effect of Sex Enhancing Drugs on Different Organs in Male Swiss Albino Mice; depicts that one possible consequence of exposure for these xenobiotics is disruption of spermatogenesis and the sertoli cells, along with sever effects on different other organs [1]. The use of herbal mixture for human consumption is on daily increase. The World Health Organization has defined herbal medicine as: ‘any part of the plant in which one or more of its parts can be used for therapeutic purposes or as precursors for the synthesis of useful drugs [2]. Herbal remedies have been used for several years by people from diverse cultures. Prior to the advent of modern medicine, the use of herbal medicine was the only available treatment known to mankind. During the past decades, the general population globally has developed an unparalleled interest in self-medication with natural therapies especially herbal medicine.[3,4]. Routinely, these herbals are fervently taken without the doctor’s prescriptions. There are bold and popular perceptions that, because the products are natural, they are safe and that they have been used for centuries without harmful effects. *Vino Gano Ginger & Herb Liqueur* is one of the herbal bitters typically made from ginger, ethanol, water, hibiscus, sucrose, citric acid concentrate’s {Grape and lemon} with 9.7% alcohol volume, produced by *Vino Gano Company Nig. Ltd.* Study on *Yoyo cleanser herbal bitter* showed minimal and non- significant increase of alkaline phosphatase (ALP), alanine aminotransferase (ALT) and aspartate aminotransferase (AST), albumin, creatinine, total bilirubin and total protein of the herbal formulation when compared with the control. However, there was a significant increase in serum levels of urea (10 and 15 mg/kg doses) and total cholesterol (TC) (5 and 10 mg/kg doses) on the treated groups. It can therefore be concluded that the poly-herbal formulation at the used doses and duration of the study on AST, ALP, ALP, albumin, creatinine, total

bilirubin and protein might not cause any form of cholestasis and may not impair the capacity of the liver to excrete bilirubin [5]. They might not also have a reno-toxic effect on the kidneys due to the reduced levels of creatinine. But on some increased values of urea and TC which might lead to reduced renal function and hepatobiliary disorder and impaired cholesterol metabolism and as such a call for caution on the use of the poly-herbal formulation on higher therapeutic doses and longer duration of time. Study on the Effect of Sex Enhancing Drugs on Different Organs in Male Swiss Albino Mice: Values of Safety, stated that, Erectile dysfunction (ED) and tde-drug (Sildenafil Citrate) are commonly known, in public as Viagra or Revatio causes serious histopathological side effects at overdosed or misused [1]. They concluded that there is an increasing risk for male reproductive function, which can be disrupted by exposure to sex enhancing drug that can exogenously mimic and increase or disturb the testis, at overdoses of erectile drugs. One possible consequence of exposure for these xenobiotics is disruption of spermatogenesis and the Sertoli cells, along with sever effects on different other organs. There is a renewed interest in non-nutritive bioactive compounds of foods and beverages as ‘lifespan nutrients’ in the risk reduction of non-communicable diseases. Herbal beverages, consumed as part of a balanced diet, may improve the antioxidant status and enhance the overall health status [6]. Herbal tea is essentially an herbal mixture made from leaves, seeds and/ or roots of various plants. As per popular misconception, they are not derived from the usual tea plants, but rather from what are called as ‘tisanes’ [7]. There are several kinds of tisanes (herbal teas) that have been used for their medicinal properties. Some of them being consumed for its energizing properties to help induce relaxation, to curb stomach or digestive problems and also strengthen the immune system. Herbal teas are used as therapeutic vehicles in many forms of traditional medicine and are a popular global beverage [8]. Energy drinks represent the fastest growing sector in the beverage industry. These drinks often contain five times the amount of caffeine as soft drinks and may also contain taurine, riboflavin, pyridoxine, and various herbal derivatives. Most energy drinks also contain sugar in an amount that exceeds recommended daily allowances [9]. Energy drinks have also been shown in laboratory studies to increase heart rate and blood pressure. Energy drink consumption can lead to caffeine intoxication especially in children. Deaths attributed to energy drink consumption have been reported in Australia, Ireland, and Sweden. Health care providers report the following effects after consumption of energy drinks: dehydration, accelerated heart rates, anxiety, seizures, acute mania, and strokes [9]. Herbal ingredients play an important role in the sensory evaluation of energy drinks as well as improving their health beneficial effects. The most common herbs used in energy drinks can be listed as ginseng and ginkgo biloba [10]. Energy drinks were more popular in Japan from 1960s. The era of energy drink started during 1962 with Lipovitan D by a company named Taisho in Japan. Lipovitan D had extra caffeine and vitamins and was marketed as medicinal tonics. The addition of taurine and niacin in the drink was to enhance and improvement of energy and concentration [11]. The energy drinks produced

by hemp combines the high quality of the typical energy drink ingredients with healthy properties derived from this commodity. Energy drinks are produced by the transformation of hemp seeds, giving to the drink all the properties related to the content of protein (25%), carbohydrates (27%), lipids (36%), and considerable amounts of fibers, vitamins, and minerals. The energy drinks based on hemp seeds are produced with water and processed hemp seeds, with addition of taurine and caffeine, besides the normal properties of gluten free and lactose free [12]. Best evidence to acclaim the reviewed effects, needs sufficient trials to support the linkage of incidents of adverse kidney function with the ingestion of the drink. Ingredients of energy-drinks, intensity and duration of ingestion, and ethical issue was reviewed. Adverse kidney function was found among adults with excessive ingestion of energy-drink [13]. The significant alterations in hematological parameters of rats treated with the drugs may provide evidence of toxicity. The reduction in PCV (piroxicam, Ibuprofen and diclofenac), RBC (Ibuprofen) and Hb (piroxicam) values in the above drug-treated groups may suggest drug-induced toxicity, characterized by excessive destruction of red blood cells resulting in anaemia [14]. It may also be due to loss of erythrocytes as a result of gastrointestinal bleeding. When there is a substantial loss of blood from the body, the RBC picture may indicate microcytic hypochromic anaemia [15,16].

II. MATERIALS AND METHODS

A. MATERIALS

Wistar rats, Vino Gano Ginger and Herbal Liquor, Syringes and needles, hand Gloves, incubator, stop watch, oven, centrifuge Model 800, cotton wool, Chloroform, xylene, 40% formaldehyde, Hemotoxylin and Eosin stains, Desiccator, Methylated spirit, EDTA bottles, Normal Sample Bottles, Animal weighing balance, Water bath.

B. Sample Administration

A total of 25 adult male Wistar rats weighing between 115.3 -248.6g were used for this study. The animals were purchased and kept in standard environmental condition, given standard rodent food (formulated) and water ad libitum in the animal house of the Bayelsa Medical University. Nine [9] out of the 25 Wistar rats were used for Sub- Acute Test [LD₅₀] using ^[17] formula for administration of samples.

The 16 Wistar rats were separated into four groups based on the body weight and then different concentrations of Vino Gano Ginger and Herb Liqueur was administered orally to the rats of various groups with reference to the [LD₅₀]. Each group contain four [4] Wistar rats.

Group 1: Normal control group receive normal water and feeds.

Group 2: Was given 5ml/kg of Vino Gano Ginger and Herb Liqueur for 4 weeks [a month].

Group 3: Was given 10ml/kg of Vino Gano Ginger and Herb Liqueur for 4 weeks [a month].

Group 4: 15ml/kg of Vino Gano Ginger and Herb Liqueur was administered for 4 weeks [a month].

C. Blood Sample Collection

The experimental animals were weighed weekly and one each group was sacrificed and blood samples were collected for haematological analysis to assess the effects of the VINO Gano Ginger and Herb Liqueur on the various components of the blood.

III. HAEMATOLOGICAL PARAMETERS

The haematological parameters include, Packed Cell Volume (PCV), Total White Blood Count (TWBC) . Hemoglobin (HB), Red Blood Cell (RBC), Platelet. Neutrophil, Lymphocytes, Monocytes, Eosinophils and Basophils.



Fig. 1: VINO Gano Ginger and Herbs Liqueur

IV. RESULTS

Group 1 [CONTROL]	Group 2 [5ml/kg]	Group 3 [10ml/kg]	Group 4 [15ml/kg]
214.30±10.5	126.50±4.5	126.23±4.5	128.13±4.3

Table 1: MEAN BODY WEIGHT OF WISTAR RATS

Mean±SE

PARAMETERS	Group 1 [CONTROL]	Group 2 [5ml/kg]	Group 3 [10ml/kg]	Group 4 [15ml/kg]
PCV	54.5±2.30 ^a	52.33±5.07 ^b	54.67±5.78 ^c	46.33±2.33 ^d
TWC	5.75±1.01 ^b	2.63±0.53 ^a	4.0±0.80 ^d	2.67±0.67 ^c
HB	17.5±0.87 ^d	17.5±1.44 ^c	19.5±0.87 ^a	16±0.00 ^b
RBC	5.45±0.26 ^c	5.35±0.49 ^a	5.95±0.32 ^d	4.85±0.09 ^b
PLATELET	569±56.0 ^a	503.57±1.42 ^d	592±35.22 ^b	628.5±36.08 ^c
NEUTROPHIL	56.5±0.87 ^c	61.67±4.91 ^a	36.0±9.0 ^d	46.0±8.33 ^b
LYMPHOCYTES	38.5±0.87 ^b	32.0±6.43 ^a	61.33±7.88 ^c	46.67±6.89 ^d
MONOCYTE	3.0±0.00 ^o	2.67±0.67 ^o	2.67±0.67 ^o	4.33±0.88 ^o
EOSINOPHIL	2±0.00 ^o	3.67±1.20 ^o	1.67±0.67 ^o	3.0±0.58
BASOPHIL	0	0	0	0

Table 2: HEAMATOLOGICAL RESULTS

MEAN±SEM

V. DISCUSSION

Because blood in circulation carries nutritive and waste substances, analysis and examination has become imperative to detect the presence of diseases associated with it. The result of the haematological analysis showed that the mean Packed Cell Volume of the Wistar rats treated with VINO Gano for groups 2 and 4 tend to be lower which indicates that the herbal liquor pose a negative effect on the stem cells [table 2]. The Total white blood count of the treatment groups [2-4] as shown in [table 2] is lower compared to the control group ;which is an indicator that VINO Gano liquor has the potentials of bone marrow damage [inhibits hematopoiesis], thereby causing low production of the white blood cells to combat invading agents, which exposes the Wistar rats to severe infection, aplastic anemia, lupus [autoimmune disease], splenic sequestration, leucopenia and death may result. This significant decrease in white blood cells corroborate with the findings of [18] were

significant decrease in white blood cells counts (WBCs) was observed in Piroxicam, celecoxib and aspirin-treated groups of Wistar rats. This finding is in agreement with earlier studies by [19], which showed that decreased feed intake may have a major impact on the haematopoietic system and has been observed to decrease white blood cells. Evidence from this result showed reduction in haemoglobin and total red blood cell count of the group four[4]; which might arise due to dose related factor. The result from this present study showed high platelet level in the treatment groups 3 and 4, causing in Reactive Thrombocytosis which could result primarily from infectious or inflammatory disorders, clonal thrombocytosis or thrombocythemia resulting from abnormal platelet production by the bone marrow. This high platelet count also result from iron- deficiency anemia, leading to excessive clotting [thrombosis] there by blocking major blood vessels supplying major organs like the heart and brain which could lead to myocardial infarction and stroke. From the results it is evident that the mean

Neutrophils values increase in the second treatment group but decrease in the 3rd and 4th treatment groups as compared to the group 1[control]. If neutrophils are the first line of defense against infectious agents; they were produced in higher number to combat infections within the Wistar rats as a result of the treatment with the VINO GANO LIQUOR. Exceedingly, the production of the Neutrophils tend to reduce as the dose increases; the fact remain that their production may have been affected [in the bone marrow] and the circulating number may have been destroyed. This results also showed that the lymphocytes tends to be reduce in the first treatment group and gets higher in the 2nd and 3rd treatment groups. This increase in lymphocytes is an indication of foreign body presence within the Wistar rats. In this present study, there seems to be no significant change in Monocytes value for all treatment groups when compared with the control. The Eosinophil value in the first treatment group possesses higher value than the control and other treatment groups but there is no significant difference recorded.

VI. CONCLUSION

Findings from this study showed that the VINO GANO LIQUOR and Herbal Liquor isn't good for human consumption because it tend to lower White blood Cells production and circulation thereby exposing the body to disease condition concurrently reducing your immune system.

Abuse of herbal drinks is frequently on the increase, because they are believed to enhance man's sex life. We therefore recommend the stoppage of production and consumption.

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