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Studies on effects of plant alkaloid (opium) on liver of male albino rat

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Abstract
Nature has provided man with many drugs to alleviate his suffering among them are alkaloids a group of organic based found in plants. The present study has undertaken effects of opium on liver of male albino rat. The experimental rats were orally feed with opium of constant dose i.e. 1.38g/kg body weight for 15 days. The treated liver showed displacement of nuclei towards periphery nuclear fragmentation and hyperaemia accompanied by liquefactive necrosis.

Keywords: Plant alkaloids, liver, male albino rat.

Introduction
Any substance that can cause physiological biochemical or psychological absurd is called drugs. Actually the amount or dose intake is important thing. The opium a narcotics used as drug to get rid from mental anxieties and to kill the pain. It is basically used as pain killer but an active ingredient of it addicts the rat. The addiction becomes dangerous making the rat unsocial and unhealthy. The work will be helpful in exploring the biochemical changes in the drug addicted rat.

Nature has provided man with many drugs to alleviate his sufferings. Among them are alkaloids a group of organic bases found in plants. Morphine, quinine, caffeine, atropine and strychhine are some of the well-known alkaloids. The present study has undertaken effects of morphine (opium) on liver of male albino rat.

Very scantly information is available as regards to effects of control drugs to rat (Kanwar & Kanwar, 1989 [6], Naik & kar, 1993 [11], Gary, 1993, Arti & Akela (1993) Akela *et al* [1], 1993, Akela & Arti, 1994 [1], Arti & Akela, 1996 [1], Majumdar, 2005 [9], Aruna *et al*. 2007 [4], Alam and Kumari, 2009 [7] and Anwer & Choudhary, 2009) [3].

Materials and Methods
The Swiss albino rats *Rattus norwegicus* were purchased from CDRI Lucknow. They were brought in suitable cage and reared in the laboratory with proper supply of food and water.

For actual experiment 90 days old albino rats of approximately same weight (180-190g) were selected. Colony bred adult male albino rats were maintained in a well-ventilated animal house with 12 hrs light and 12 hrs dark scheduled. Experimental male albino rats were fed a standard pellet diet (Hindustan Leaver Ltd.) Water was made available adlibitums. Rat drinks 140 ml/kg body weight of water daily.

The mature male rats of equal weight and age were selected for experiments after proper acclimatization to laboratory condition were divided into following two groups. 10 albino rats kept as control were fed with normal pellet diet. The second group of rats were orally feed with opium of constant dose i.e. 1.38g/kg body weight for 15 days, At the end of exposure period (15 days) the rat of both control and experimental groups were weighed and dissected in ringer's saline. The liver was quickly taken out, weight to the neatest milligram and fixed in aqueous bouins carnoy and 10% neutral formation fixatives. After proper washing, dehydration and cleansing the tissue were embedded in paraffin wax. Serial section of 6micro meter were cut and stained with haematoxylin and eosin. The selected slides were processed for routine histological examination.

Results

The liver of rat is bilobed, dark chocolate coloured structure made up of a homogenous mass of polyhyderal cells. The polyhyderals cells are arranged in groups enclosing bile passage (Fig A). Under opium exposure displacement of nuclei towards periphery nuclear fragmentation are also well marked in the hepatic tissues of the opium exposed rat and hyperemia accompanied by liquefactive necrosis in liver of treated rat (Fig-B).

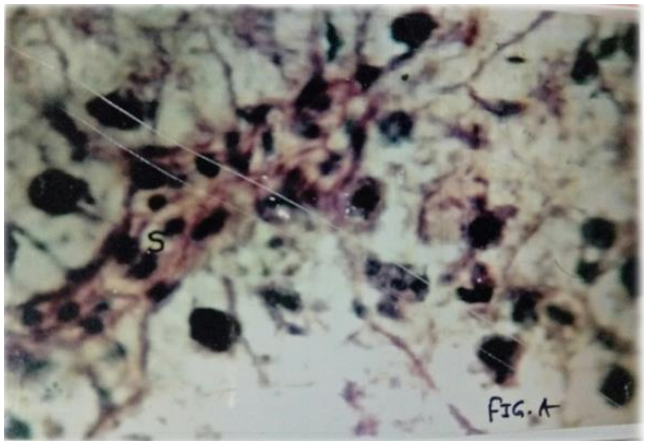

Fig 1: Sinusoidal space in normal liver of rat and chromatin material in various stages of cell division x 1500 H & E S = Sinusoids

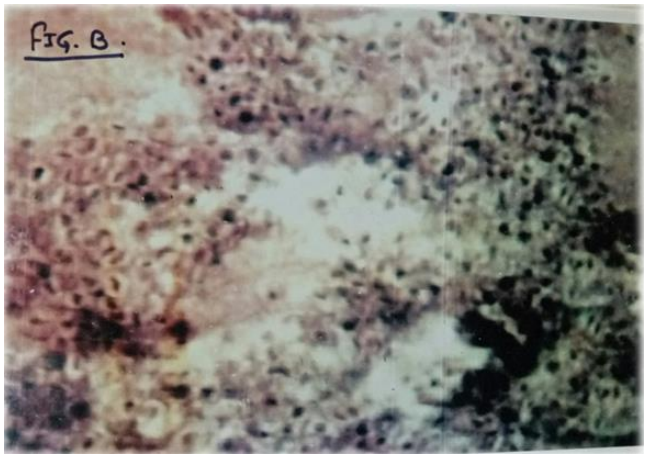

Fig 2: Hyperemia accompanied by liquefactive necrosis in liver of 10 & 15 days opium addicted rat X 600 H. & E.

Discussion

The recent literature on pathogenic factors, including direct effects of ethanol and its proximate metabolite acetaldehyde, associated nutritional factors, the formation of acetaldehyde-protein adducts, associated immune alterations and the potential for liver injury due to coexisting hepatitis virus infection is highlighted. The therapy of patients with advanced alcoholic liver injury, especially alcoholic hepatitis is also controversial. It seems reasonable that all patients with advanced alcoholic liver injury, especially alcoholic hepatitis is also controversial. It seems reasonable that all patients should receive adequate nutrition even if parenteral or enteral supplementation is required. For patients, with complication from end state alcoholic cirrhosis, liver transplantation should be considered, as the patient with alcoholic cirrhosis does as well after liver transplantation as those patients with other forms of end stage liver disease (Zetterman, 1992).

Liver had always been an organ of interest on account of its involvement in vital metabolic processes of the body. Vertebrate liver is the chief detoxicating organ, Naik (1993) [11] has reported vacuolation of hepatic, cells in rainbow trout exposed to rat. Mazumdar (2005) has observed that destruction of cytoplasmic as well as nuclear materials occur in the liver of rat. Similar observation have been recorded in the liver of rat by Aruna *et al* (2007) [4], Alam (2009) & Anwer & Choudhary (2009) [3].

References

1. Akela BP, Arti K. Effect of opium on blood urea level of laboratory mice, *Mus domesticus domesticus* environ Ecol 1994;12(1):229-231.
2. Alam S, Kumar A. Studies of control drug and their effects on blood metabolite levels of Albino rat. Indian J Environ & Ecoplan 2009;16(1):181-184.
3. Anwer J, Choudhary S. Effect of plant alkaloids on haematological parameters of male albino rat. J Natcon 2009:21(2):325-329.
4. Aruna B, Gulati R, Rani U. Dietary modulation and restoration of immune response by prebiotic lactulose onexperimental study. Abstract 77th Annual Session and Symposium on novel Approaches for food and nutrition security 2007, 6.
5. Gray E. Perception of the caused of drug use in a series of article in the International Journal of the addiction international J Addiction 1993;28(6):559-569.
6. Kanwar KC, Kanwar J. Smoking a hazardous addication Science reporter, April-May 1989,202-208.
7. Kumari Arti, Akela BP. Effect of opium addiction on certain haematological parameter of *Mus domasticus domesticus*, young Scentist Programme, ISCA 1996.
8. Kumari, Arti, Akela BP. Effect of opium on bloodcholesterol level of laboratory mouse. *Mus domesticus domesticus*, coluban, J Life Sic 1993;1(i): 79-80.
9. Majumdar SK. Alternative Medicine complementaray to modern Medicine Everyman's Science 2005;XL(2): 105-110.
10. Muthalagi S. Effect of different concentrations of sewage on the haematological parameters of C. Mirghala Indian. J Environ. & Ecoplan 2006;12(2): 409-412.
11. Naik DR, Kar S. Opiate peptides: Body's painkiller, Science reporter 1993, 274-278.
12. Revathi K, Yogananda M, Kapiarasi K. Effect of tannary effluent on the biochemical and haematology of wistar albino rats. Indian. J Environ & Ecoplan 2003; 7(3):629-632.
13. Shipra Sharma, Goyal RP, Geetayali chakrvarty, Anjali Sharma. Orange, red a blend of permitted food colour induced haematological changes in swiss albino mice 2005;24(2):99-103.