White albino rats were purchased and kept in a wooden cage. Healthy male rats were selected and utilised for control and experimental purposes. The food during the period of experimentation consisted of grains soaked for 12 hours in water. They were provided with sufficient water all through the period of starvation and experimentation. The rats weighed on the average about 105 gm.

The male rats were divided into five groups of 7 each.

1 - Controls - Separate controls were kept throughout for every process of experimentation and estimation of cholesterol.

2 - Starvation - To study the effects of starvation, the rats were kept without food for 72 hours.

3 - Effects of $\Delta^9$-Tetrahydrocannabinol ( $\Delta^9$-THC ) was injected intraperitoneally in the proportion of 40 mg per Kilogram body weight for 7 days after which the rats were killed on the eighth day (details vide infra).

4 - Effects of Cannabidiol - The procedure of experimentation was kept the same as in the case of $\Delta^9$-THC.

5 - Effects of infection of Cysticercus fasciolaris.
The liver, spleen, testis and adrenal were taken out and washed in saline (0.9%). Volume and weight were measured of the entire glands (testis and adrenal) while small pieces of liver and spleen were cut and dealt with similarly. The measured pieces of the particular tissue were homogenized in saline (27 or 28 ml depending upon number of metabolites). One ml of the homogenized tissue was taken and then 5 mg of the particular amino acid (3DH) was added to it. Control was kept separately for each tissue. The amino acids utilized for the purpose of experimentation were as follows:

1. DL - Alanine.
2. DL-2-Amino-n-butyric acid.
3. L - Arginine monohydrochloride.
4. DL - Aspartic acid.
5. L - Cysteine hydrochloride.
7. DL - 3,4 - Dihydroxy phenylalanine.
8. L - Glutamic acid.
10. L - Histidine monohydrochloride.
11. L - Hydroxy proline.
12. L - Leucine.
DL - iso-Leucine.
DL - nor-Leucine.
L - Lysine monohydrochloride.
DL - Methionine.
DL - Ornithine monohydrochloride.
DL - D-Phenylalanine.
L - Proline.
DL - Serine.
DL - Threonine.
DL - Tryptophan.
L - Tyrosine.
DL - Valine

Stearic acid

Stearic acid as an example of fatty acids and dopamine of those of amines were also utilized for experimentation in the same way as the amino acids.

After one hour of incubation, at the room temperature with the particular metabolite, 2 ml of alcohol-ether mixture (1:1) was added.
Standard curve of cholesterol
Estimation of Cholesterol

Estimation of cholesterol was done on the basis of Liebermann-Burchard reaction. The set of tubes containing incubated tissue and alcohol-ether mixture was evaporated slowly, mostly at 50°C. After extraction in 5 ml chloroform, 1 ml of acetic anhydride : H₂SO₄ mixture (10 : 2) was added for Liebermann- Burchard reaction. Readings were taken in a photoelectric colorimeter after 30 minutes and yield of cholesterol was estimated from standard curve prepared earlier. Controls were kept throughout for quantitative estimation.

Extraction of Δ⁹-Tetrahydrocannabinol (Δ⁹-THC) and Cannabidiol (CBD).

The extraction was done according to the method used by Dahia and Jain (1977) and Dahia (1977). Crude Cannabis buds of female plants were utilized for extraction. They were ground, sieved and extracted three times with 500 ml portion of petroleum ether (40° - 60°) by vigorously shaking the mixture at room temperature for one hour. These extracts were filtered and evaporated. 500 ml of acetone was added to the residue and the "acetone extract" was placed in an ice bath for 4 hours and filtered to remove insoluble plant residue which would otherwise interfere with the column flow. The filtrate was evaporated and
the extract was dried. It was then dissolved in 25 ml of petroleum ether (80°-100°). The petroleum ether extract of Cannabis was allowed to run down a column packed with alumina with petroleum ether (80°-100°) followed by a mixture of petroleum ether and ethyl acetate in the ratio of 95:5. 410 fractions of each of 10 ml were collected. The height of the column was 120 cm. All like fractions were combined and evaporated. The components thus obtained were rechromatographed for further purification. Their purity and identification was made by thin layer chromatography. The fractions were spotted on alkaline silica gel G plates (prepared with 0.1 N NaOH diluent) and developed with n-hexane-ethyl acetate (9:1). 0.2% aqueous solution of Brentamine Fast B was used to locate the spots. The identification of the constituents was done by comparing their Rf values and colour of the spots with that of known reference samples dealt with similarly. The spot of Δ⁹-Tetrahydrocannabinol was scarlet and that of Cannabidiol was orange.

Preparation of sample for injection: (Dahia, 1977)

A buffer suspension (400 mg / 100 ml of buffer solution) of Δ⁹-Tetrahydrocannabinol (Δ⁹-THC) was prepared. 400 mg of Δ⁹-THC was dissolved in 2 ml absolute alcohol and the volume of this solution was made to 100 ml by adding warm
phosphate buffer solution (pH 7.8 - 8.0) slowly with constant stirring, resulting in milky white suspension. The phosphate buffer was prepared by adding 45.2 ml (0.2 M) sodium hydroxide solution to 30 ml of 0.2 M K$_2$PO$_4$ solution and then diluting it to 200 ml. 40 mg/Kg body weight of this suspension was injected intraperitoneally into the rats. On an average, 4.2 mg of $\Delta^9$-THC was injected every time. Such injections were given every 24 hours for 7 days. In all, 7 injections amounting to a total of about 29.4 mg of $\Delta^9$-THC were given and the rats were killed 24 hours after the last injection.

Controls were kept throughout by injecting with plain phosphate buffer with 2% absolute alcohol. They were treated exactly in the similar manner as the experimental ones.

Injections of Cannabidiol (CBD) were prepared and dealt with in the same way.