四塩化炭素中毒家兎에 있어서 血清 transaminase 活性에 미치는 牽牛子의 影響에 關한 研究

申熙大學校 医科大學 生化學教室
尹乙相, 曹龍鎬, 申相柱


牽牛子의 黃質部分과 混合部分을 投與한 實験群에 따라서는 血清 GPT 酵素의 血中으로 遊離되는 速度가 對照群에 比하여 높았다. 血清 GPT 酵素活性의 血中 失活度도 黃質部分에 成分 投與群이 對照群에 比하여 높았다.

그러나 血清 GOT 酵素의 血中 遊離 速度 및 血中 失活度은 모두 對照群이나 實験이 大同小異하 였다.

Study on the Influence of Pharbitidis Semen on the Serum Transaminase Activity in Carbon Tetrachloride Poisoned Rabbit
R. S., Yun, Y. H., Cho and S. J., Shinn
School of Medicine, Kyung Hee University

The seed of morning glory or Pharbitis Semen (Pharbitis nil (L.) Choisy) is a medical herb in oriental medicine reputed to facilitate the liquid circulation and to sedate the pulmonary function; it is further reputed to sedate humid febrility upon the arrival at vital port and to facilitate blood circulation upon the arrival at the lower point of triple warmer.

Its black variety with the origin of water by nature is reputed to sedate the humidity of stomach, spleen and kidney, to facilitate the defecations of both fecal and urinary tracts and to eliminate tympanites and edema.

It is known that the black variety of morning glory seed contains about 2% of pharbitin, a glycoside, and 11% of lipid.

In order to verify these reputed medical effects a series.
of experimental works was carried out upon the administration of this seed to carbon tetrachloride poisoned rabbits with a particular interest in its effect against an acute hepatitis caused by CCl₄ poisoning.

Material and Method

The seed of morning glory of black variety as obtained from Hospital of Oriental Medicine, Kyung Hee University Medical Centre was cleansed by immersion into 0.1M phosphate buffer (pH 7.4) at 4°C and agitation for 5 minutes. Upon the cleansing the whole seed was seperated into shell and dehulled grain and, together with a whole grain lot, each component was ground into powder seperately.

Acute hepatitis was developed in adult rabbits of an average live weight of 2.0 to 2.5 Kg by a single intraperitoneal injection with 0.5ml of 20% carbon tetrachloride solution in olive oil(1, 2).

Animals with acute hepatitis thus developed were kept with either (a)basal diet, a ration manufactured by Dae Han Feedstuff Co; (b)basal diet plus 0.1 gram of dehulled morning glory seed per Kg of live weight; (c)basal diet plus 0.1 gram of seed shell per Kg of body weight or (d) basal diet plus 0.1 gram of ground whole seed.

The whole blood withdrawn from auricular vein was verified its complete coagulation by leaving the sample at 4°C for 20 minutes and then centrifuged at 3,000 g for 10 minutes at 4°C. The clear supernatant serum uncontaminated by hemolysis thus obtained served as the enzymatic preparation for the determination of serum glutamic - pyruvic transaminase activity (3, 4) and of serum glutamic - oxaloacetic transaminase activity (5, 6).

All of the reagent employed in the present experiment were of E. Merck of West Germany except those of enzymatic activity determination which were of Sigma Chemical Co. of America and