Shri Vile Parle Kelavani Mandal's
SHRI C. B. PATEL RESEARCH CENTRE
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REPORT ON THE PROJECT

TO DETERMINE THE ACUTE TOXICITY OF SILGEL ADMINISTERED THROUGH ORAL ROUTE IN MICE.

SPONSORED BY

VIRIDIS
VIRIDIS BioPharma Pvt. Ltd.,
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Principal Investigator Dr. A. M. Bhagwat

Co-Investigator Mrs. Avanti S. Joshi

INTERIM REPORT – ACUTE TOXICITY OF SILGEL (B. No. – AS/RD/002)

I. INTRODUCTION:

OBJECTIVE:

To determine the acute toxicity of Silgel (B. No.- AS/RD/002) administered through oral route in mice.

STUDY GUIDELINES:

Study was conducted in full compliance with the guidelines laid down in "Requirements and Guidelines on Clinical Trials for Import and Manufacture of New Drug", under Schedule Y of The Drugs and Cosmetics Act, 1940, Government Of India.

STUDY PERSONNEL:

1) Dr. A. M. Bhagwat.
2) Mrs. Avanti S. Joshi

II. MATERIALS AND METHODS:

TEST ARTICLE:

Test Article : Silgel (B. No.- AS/RD/002), Viridis Biopharma.

TEST SYSTEM AND MANAGEMENT:

Test system : Mouse

Strain : Swiss albino mice

Source : Haffkine's Laboratory, Parel.

Age : 25 to 30 weeks.

Identification : By cage tags.

No. of animals : 6 mice, per dose per group

Acclimatization : At least one week in the experimental room after veterinary examination.

Randomization : After acclimation and veterinary examination ,the mice were randomly selected in mixed groups of both males and females.

Husbandary:

Environmental conditions: Temperature of the animal house was maintained in the range of 20 - 25 °C. Relative humidity close to 60 %. The mice were exposed to natural day-night cycles.

Accomodation : Groups of six in polypropylene cages with stainless-steel grill-top, facilities for food and water-bottle and bedding of clean paddy husk.

Diet : Standard pelleted rodent feed manufactured by Lipton Ltd., *ad libitum.*

Water : Water, supplied by Brihan Mumbai Municipal Corporation , filtered and kept in glass bottles, *ad libitum.*

III. STUDY DESIGN:

ACUTE TOXICITY :

The study was designed to permit the assessment of acute oral toxicity of Silgel by Acute toxic class method. (Schlede *et al*, 1992, 1995).

In this method, the compound to be analyzed was given to the animal model through the oral route (gastric intubation) at three different logarithmic concentrations, such as 50 mg / kg body weight, 500 mg / kg body weight, and 5000 mg / kg body weight.

The doses were prepared by suspending test material 0.5 % Carboxy Methyl Cellulose (CMC) to obtain the required concentration of the drug.

The animals from all the groups were observed for 24 hours, and mortality, if any, was recorded. Such a method allows allocation to the toxicity classes of very toxic, toxic, harmful, unclassified etc., the same manner as on the basis of classic LD_{50} tests.

The advantage of this alternative method is, it uses fewer animals than the traditional LD_{50} test and yields the same information on toxic signs in the treated animals.

At '0' time, the animals were given a single oral dose, depending on group randomization, of predetermined concentration of Silgel (Table-1). After initial 24 hours of observation, the animals will be maintained up to 14 days to observe any delayed (sub – acute) reaction to the given dose. After this period, the animals from all the groups will be put to sleep, dissected to observe changes, if any, in gross anatomy. Samples from tissues showing abnormalities will be fixed in 10 % formalin and sent for histopathological preparations.

TABLE – 1

GROUP (n = 6)	DOSE (mg / kg b.w) (Oral route)
GROUP - 1	CONTROL
GROUP - 2	50
GROUP - 3	500
GROUP - 4	5000

IV. RESULTS AND OBSERVATIONS :

RESULTS :

Table – 2 records the results of experiments expressed as percentage mortality at given concentration of Silgel, B. No. – AS / RD / 002.

TABLE - 2

GROUP (n = 6)	DOSE (mg / kg b.w) (oral route)	PERCENTAGE MORTALITY
GROUP - 1	CONTROL	0
GROUP - 2	50	0
GROUP - 3	500	0
GROUP - 4	5000	0

From Table – 2 it can be observed that there is no mortality in all the groups treated with the drug at the end of 24 hours.

The treated mice were maintained for a period of 14 days to observe any delayed toxic expression. At the end of 14 days observation period, the animals were put to sleep and dissected open to observe gross anatomical changes, if any. It was found that there was no delayed toxic reaction and the animals under observation showed normal feeding, drinking and grooming behavior. All mice, administered the drug orally, showed normal size, texture and colour of the organs such as liver, spleen, kidney, alimentary canal, lungs, heart, gonads etc. None of the organs of animals, which received the drug orally at its highest concentration, did not present abnormal histological pattern.

CONCLUSIONS:

On the basis of the 24 hours and 14 days observation period, it may be concluded that even at an oral dose of 5000 mg / kg, Silgel produced no mortality when given to a population of male and female Swiss Albino mice. This product may therefore be assigned to unclassified category of the Acute Toxic Class Method of Schlede *et al.*, (1992, 1995).