ABSTRACT

EFFECT OF SOME PHYSICAL MUTAGENS AND CHEMICAL MUTAGENS ON MALE MEIOTIC CHROMOSOMES OF GRASSHOPPER, Spathosternum praciniferum, AND ON MITOTIC CHROMOSOMES OF Oreochromis mossambicus, Mus musculus AND HUMAN CHROMOSOMES AND THEIR ALTERATIONS BY AYURVEDIC COMPOSITIONS.

---- Pranab Kumar Das

Cytogenetic study is an important tool to assess mutagenic potential of different mutagens like physical mutagens (X rays, uv rays, γ rays), chemical mutagens (chemosterilants, pesticides, antibiotics, carcinogens, etc.). Several workers are carrying out their research works from various angles and taking several protocols in consideration to study cytogenetics in different animal and plant models.

The present study has been undertaken to assess the effect of different doses of X rays and γ rays and standard doses of chemical mutagens like Gentamicin on male meiotic chromosomes of grasshopper, Spathosternum praciniferum; and on mitotic chromosomes of fish, Oreochromis mossambicus: on mice Mus musculus at different time intervals, and a review on human chromosomes.

Simultaneously protective measures by ayurvedic formulation [leaf extracts of Barleria lupulina (Acanthaceae family)] had been studied herein to assess protection against different mutagens. Ursolic acid, β sitosterol and sitosterol-3-O-glucoside are the main potent anti-cancer component present. It was for the first time we reported potent anti cancer, radio-protective, anti tumor and anti-clastogenic activities in Barleria lupulina, which is also patented from the laboratory.

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