P R E F A C E

The present thesis deals with the studies on the effect of Mitomycin C on the testicular activity in albino rats.

The steroidogenic capacity of rat testicular tissues have been studied following treatment with Mitomycin C, an antibiotic and which acts like an alkylating agent. Histochemical studies were performed supported by histometrical, biochemical experiments and histological studies in some instances. Radioimmunoassay technique was used for the measurement of plasma testosterone level only in case of mature groups, control and treated with Mitomycin C.

The thesis has been divided into eight Chapters. In the first chapter the literature relating to the present investigations has been reviewed. The second chapter deals with the experimental designs and methods employed. In the third and fourth chapters, the results together with discussions on the effect of Mitomycin C on steroidogenic activities in mature and prepubertal rat testis have been placed. In the fifth and sixth chapters an "in vivo" and "in vitro" experiments were performed to find out the possible mechanism of action of Mitomycin C. The seventh chapter deals with the differential count of germ cells of the seminiferous tubules of testis in mature rats and study of histological changes in testis of prepubertal rats following treatment with Mitomycin C alone and together with either HCG or testosterone propionate. Lastly, the conclusion derived from the present investigations have been placed in the eighth chapter.