SUMMARY AND CONCLUSION

50 male and female albino rats Rattus norvegicus were used in this study. The animals aged (10 - 12) weeks and weighed (100 - 150) gm for males and (80 - 120) gm for females. Animals from either of the two sexes were divided into 5 groups, 5 rats were alloted to each group. The animals were given daily intraperitoneal injections equalized to the therapeutic dose used for human.

1. Control group : This group was injected by equivalent volume of 0.9% sterile saline solution.
2. Indomethacin group : the daily dose used was 0.5 mg indocid/100 gm body weight of rats.
3. Diclofenac sodium group : animals were injected at a daily dose of 0.7 mg voltaren/100 gm body weight of rats.
4. Phenylbutazone group : animals were injected daily by 0.7 mg curazolidine/100 gm body weight of rats.
5. Ketoprofen group : animals were injected daily by 0.89 mg profenid/100 gm body weight of rats.

Various chromosome aberrationsin bone marrow cells and

sperm head abnormality were observed, quantitated, and statistically analyzed.

Structural aberration : the high percentage of more than one type of aberration was found clearly in groups of rats treated with profenid followed by voltaren, curazolidine while indocid have the lowest value of aberrations. In one type of aberration profenid has the same level as voltaren and curazolidine while indocid has the lowest value.

Numerical aberration : represented as in monosomic cells is the highest in indocid treated group, followed by curazolidine, profenid and finally voltaren treated group.

The frequency of trisomic cells is the highest in profenid treated group followed by voltaren, curazolidine and finally indocid. The rate of mitotic index increased in the four treated groups than that of the control, probably because each phase of cell division lasts longer than normal.

The study of the effect of one concentration of phenylbutazone for four durations 24 hours, 48 hours, 5 day

and 32 days.

Structural aberrations : 24 hours and 48 hour treatment resulted in highly significant increase in aberration; after 5 and 32 day treatment the increase was significant.

In monosomic : highly significant increase after 32 days of treatment.

Profenid induced the highest percentage of abnormal spermatozoa followed by curazolidine, voltaren then indocid.

The results and their discussion indicate that all the drugs used have a reverse effect on chromosomal and sperm structure. While profenid has the highest value for structural aberations of chromosomes, indocid is the most effective in the induction of numerical aberrations. Such aberrations may result in genetic abnormalities such as Mongolism.

Care should be taken in using these drugs in cases of oligospermia in man for the wellbeing of the generations to come.