SUMMARY AND CONCLUSION

Sulphur dioxide is a widely encountered gas especially in urban areas. It predisposes to bronchial asthma and chronic obstructive pulmonary disease. It is highly irritant to the nasal mucosa. It causes many inflammatory, degenerative and proliferative changes on the nasal mucosa.

This study was conducted on 41 mice. Concentration of the gas was fixed and animals were classified to give dependence upon setting period (time of daily exposure) and total period of exposure.

Results were varying between inflammatory changes, atrophy, desquamation, hyperplasia, metaplasia and dysplasia. The inflammation appeared to be an acute change. Most of the results were proved to be dependent on total period of exposure rather than daily period. With increase in total period cellular proliferation occurs (hyperplasia) then squamous metaplasia and dysplasia. This dysplasia is characterized by some morphological changes which give attention to the possibility of this gas to be carcinogenic.

From this study we can conclude that, the irritation caused by sulphur dioxide is time dependent and exposure to this gas every day for long period (e.g in factories) gives a good stimulant for nasal mucosal cell proliferation to the degree that it may induce malignancy.

From this it is recommended to :

1-study the irritative effects of sulphur dioxide on other areas of the respiratory passages with stress making on its carcinogenicity.

2-Investigate the effects of other inorganic gases (e.g. ozone and nitrous oxide) on nasal and other respiratory passages.