SUMMARY
&
CONCLUSIONS
Chapter 5

- Summary & Conclusions
SUMMARY AND CONCLUSIONS

The following points are evident from the present study:

- The present case/control study pertains to the patients visiting the Post Graduate Institute of Medical Education and Research, which is a referral center for the patients from the states like Haryana, Himachal Pradesh, Punjab and Chandigarh. Though cases in the present study were recruited at random, the number of patients with lung cancer was more from Haryana and Himachal Pradesh indicating thereby high incidence of lung cancer in these states. The reason can be to that the incidence of smoking which is higher in these two states as compared to the states of Punjab and Chandigarh wherein more than half of the population is non-smoking because of religious reasons.

- As most of the patients were above 50 years of age, it is evident that lung cancer is a disease of middle and old age.

- But for the val/val polymorphism, other polymorphic alleles like cyp1a1 (msp1), cyp2e1, cyp2d6, gstm1 and gstt1 when analyzed as single genotype, did not show significant association with lung cancer.

- The combined presence of cyp1a1 val/val allele along with variant cyp1a1 (msp1) genotype increased the risk for lung cancer.

- The presence of gtt1 null allele with variant cyp1a1 (msp1) genotype was more vulnerable to lung cancer as compared to gstm1 allele. This risk is more for SQCC and less for SCLC.

- Overall there was no apparent association between cyp2d6 and cyp1a1 genotypes with respect to the risk of lung cancer, but when
stratified in relation to histology, the val/val and cyp2d6 (HEM) genotype increased the risk for SCLC.

- The gstt1 null and gstm1 (+) genotype marginally increased the risk for overall lung cancer. This association was stronger with SQCC.

- Of the 56 tumor samples, 80% revealed mutations in the p53 gene, with the maximum being in exons 5 and 7.

- When the incidence of p53 mutations in tumors was seen with respect to the genotype of the patient from the blood sample, some association between cyp1a1 and gst null genotypes was found, but due to small number of samples no conclusive statement can be made and the studies with larger samples are being carried out.

- Telomerase activity was detected in 66.66% of lung cancer cases. It was more evident in cases with SCLC as compared to SQCC.

In conclusions, it is evident that lung cancer is a disease more prevalent in populations having habit of smoking and the incidence is influenced by the genotype. Though the present work has limitations with respect to the sample size; the data will provide guidelines for future work in this direction with larger sample size and more smoking related carcinogen-metabolizing genes. Even the impact of genotype on mutations in onco and anti-onco genes need to be evaluated to reach at conclusions with respect to the mechanism of lung carcinogenesis.