

ALLELIC IMBALANCE OF GENES IN SPONTANEOUS TUMOR AND IN TUMOR OF PERSONS EXPOING LONG-TERM OCCUPATIONAL RADIATION

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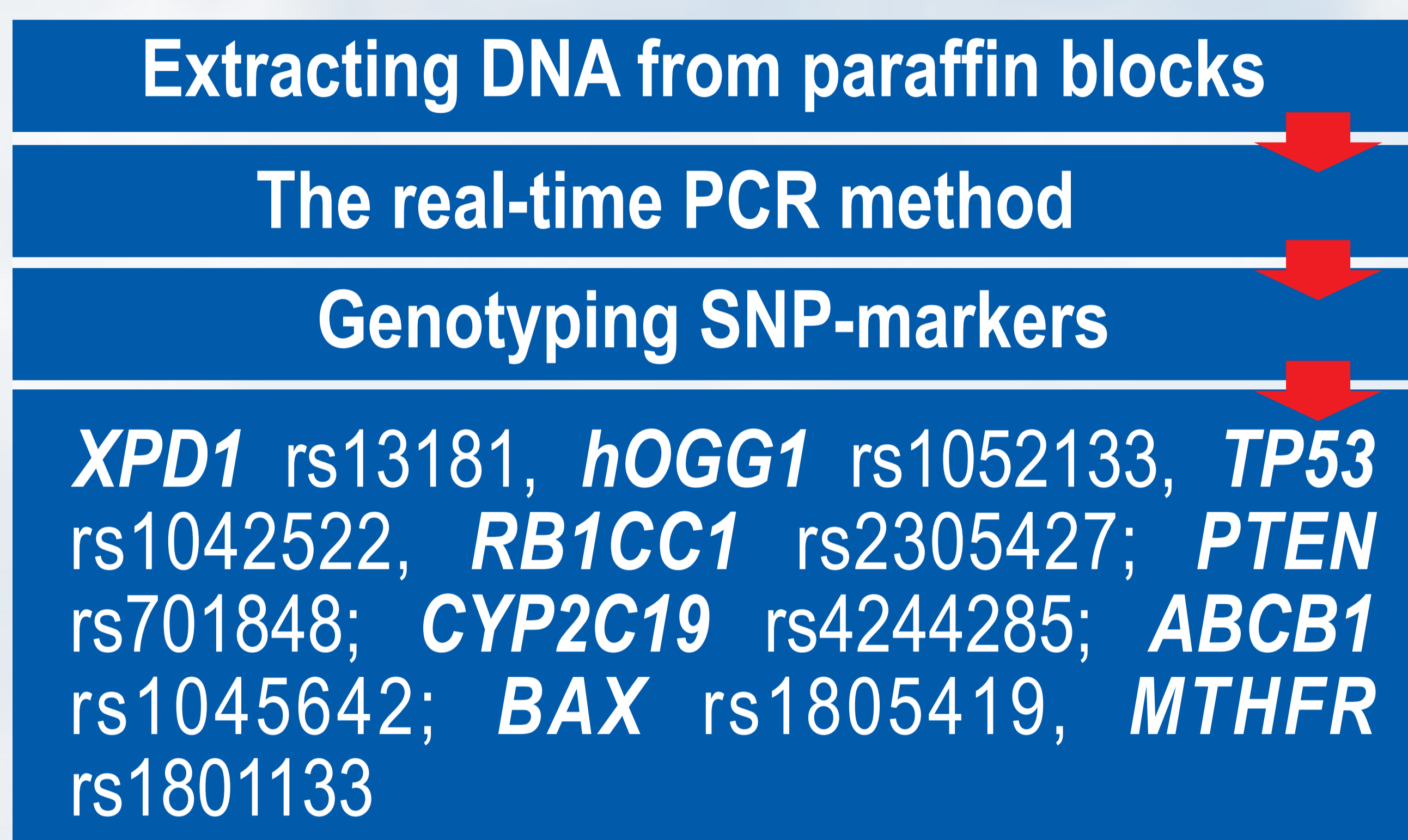
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1. INTRODUCTION

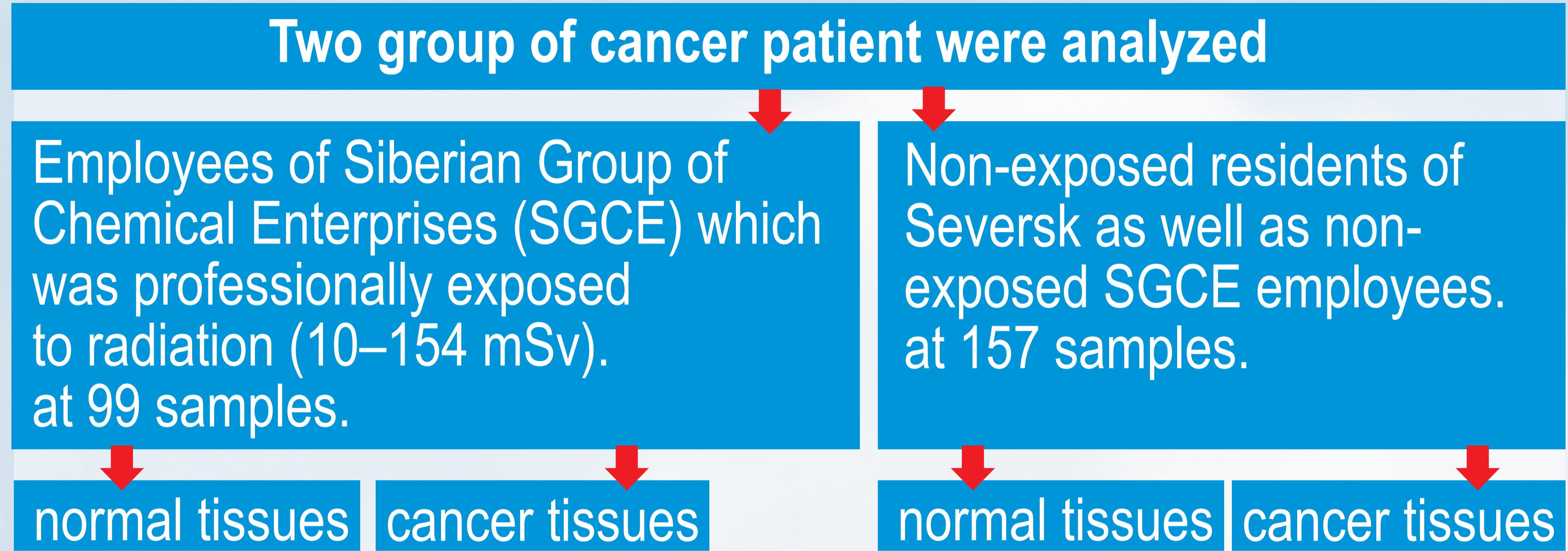
The allelic imbalance and LOH cases have been shown for many genes in sporadic tumors of various organs. The allelic imbalance at radiation carcinogenesis has not been practically studied. As such, the study will assess the

distinctive features of radiation compared to spontaneous carcinogenesis and identify marker genes that can be used to identify radiation carcinogenesis. In this study the allelic imbalance in the tumor tissues on the background of low-level radiation was examined.

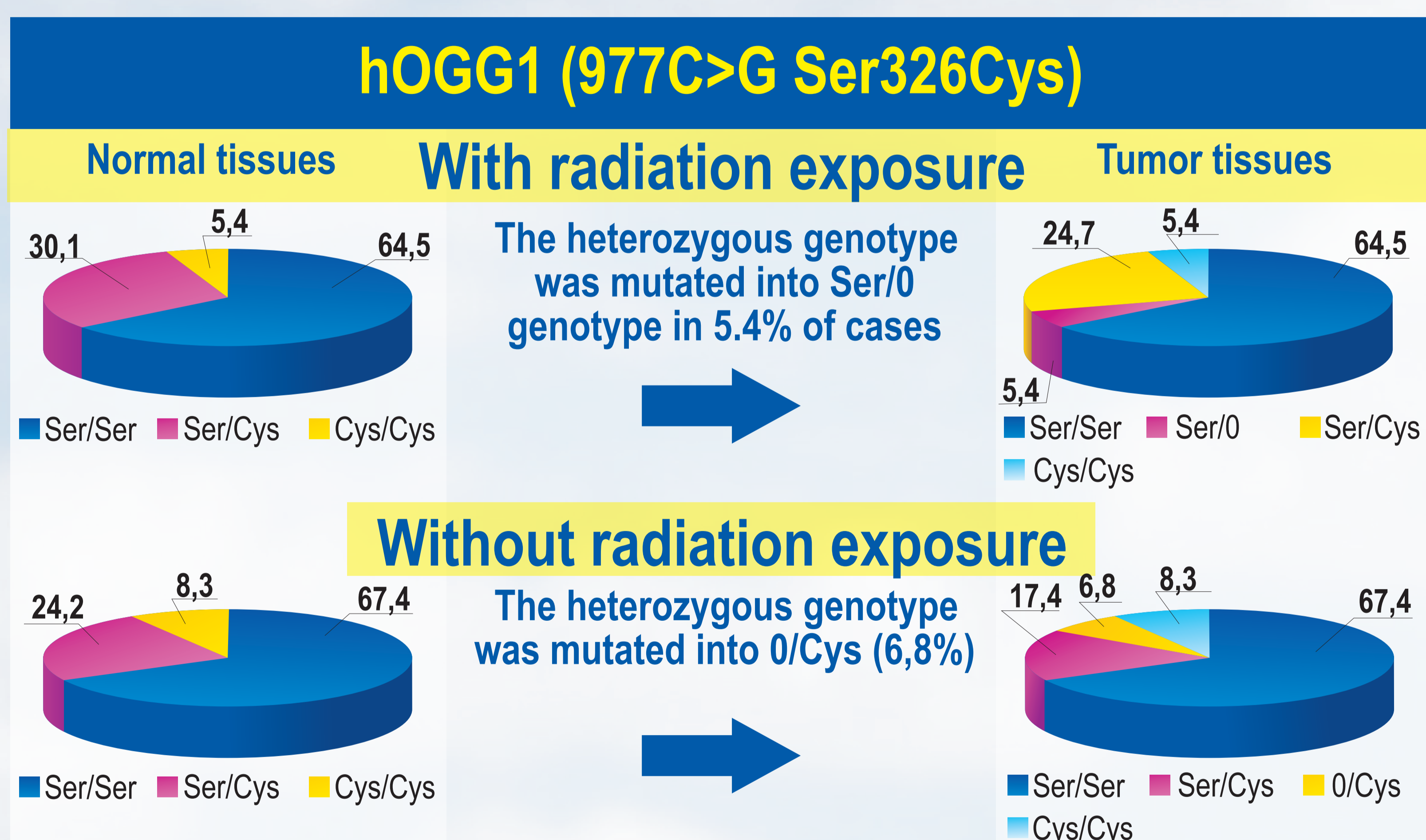
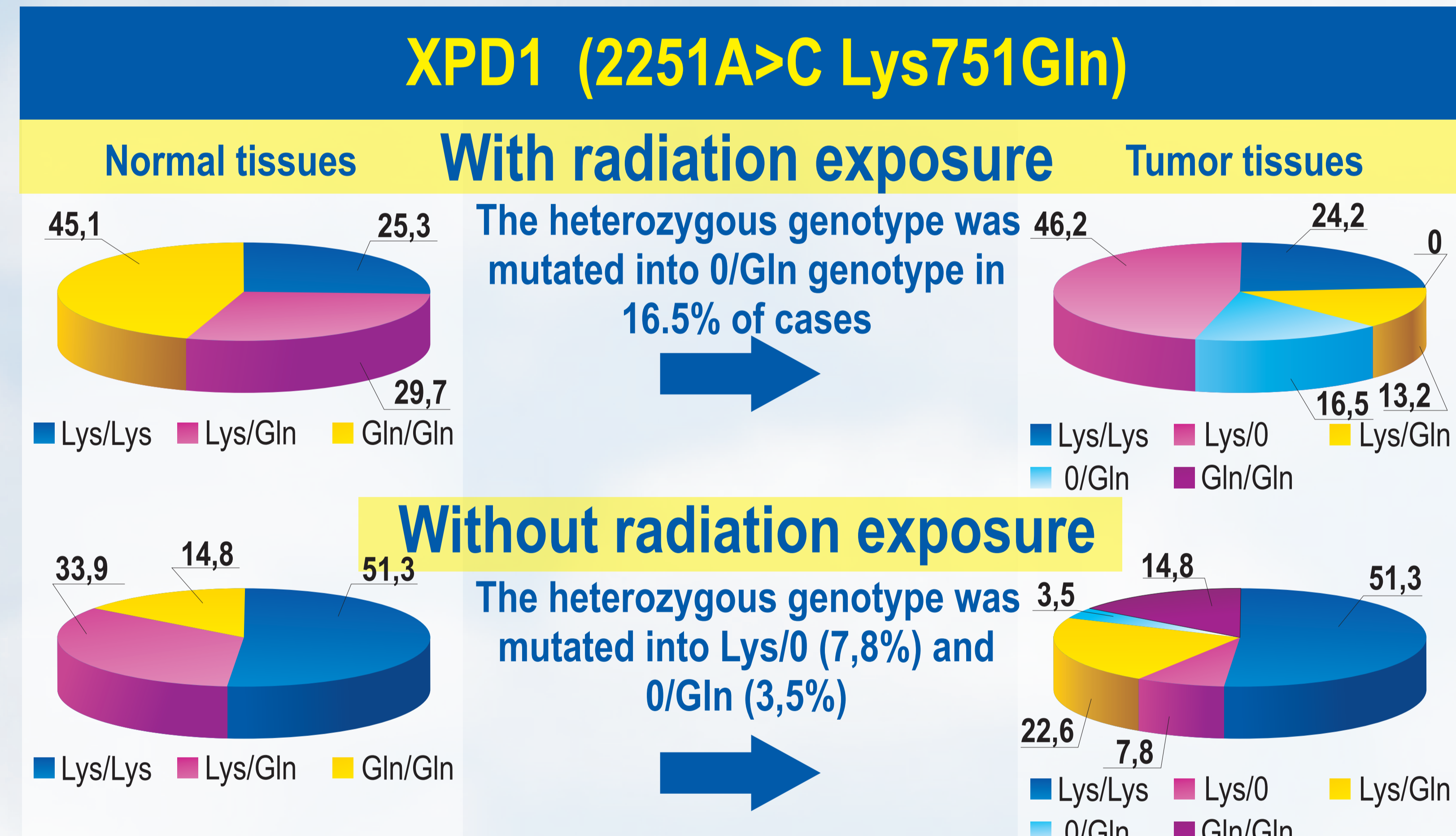
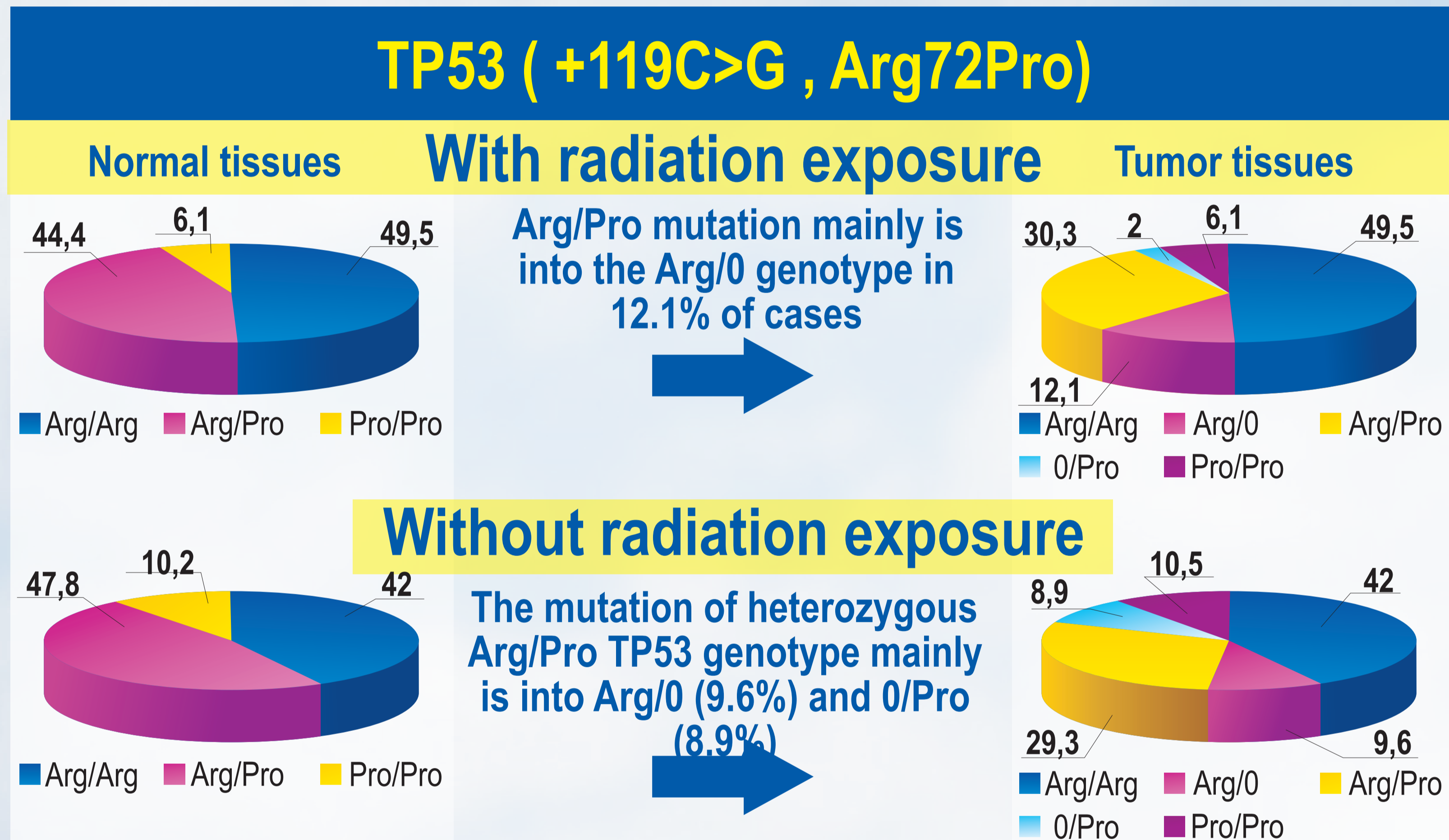
2. METHODS



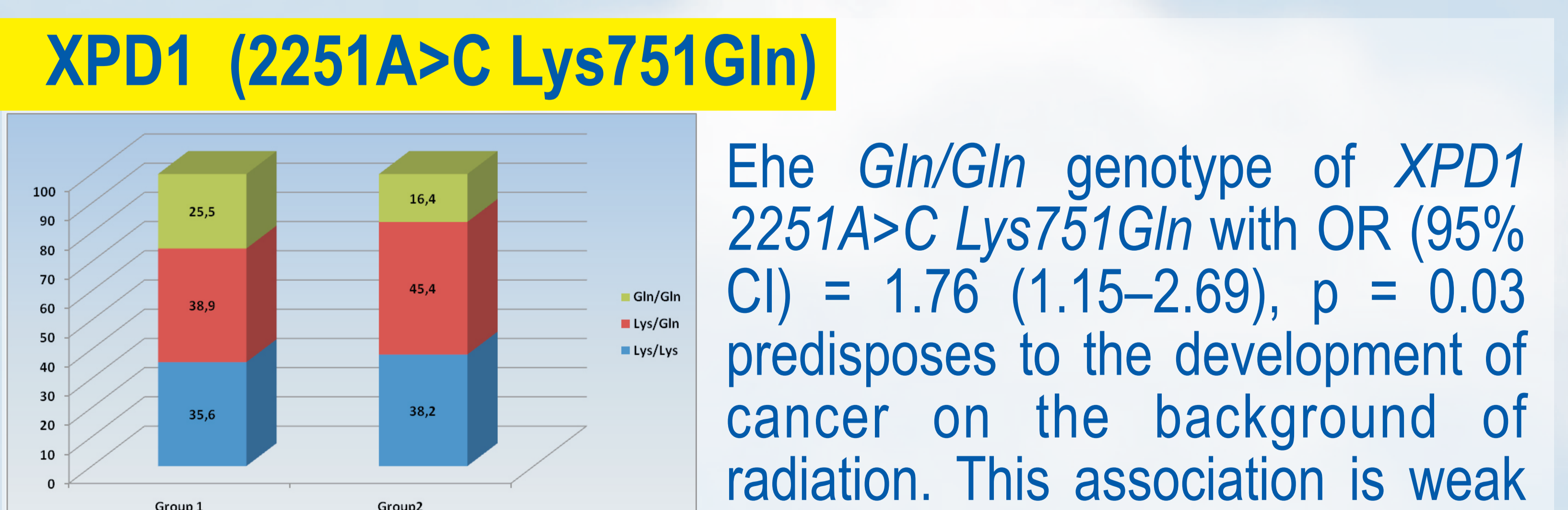
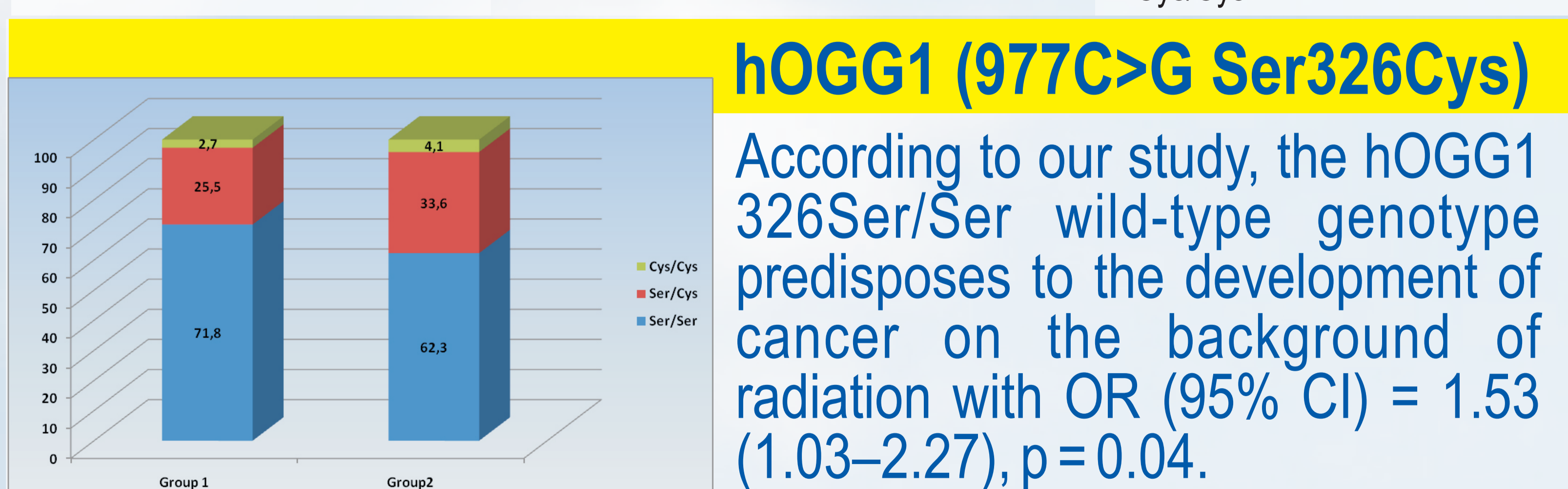
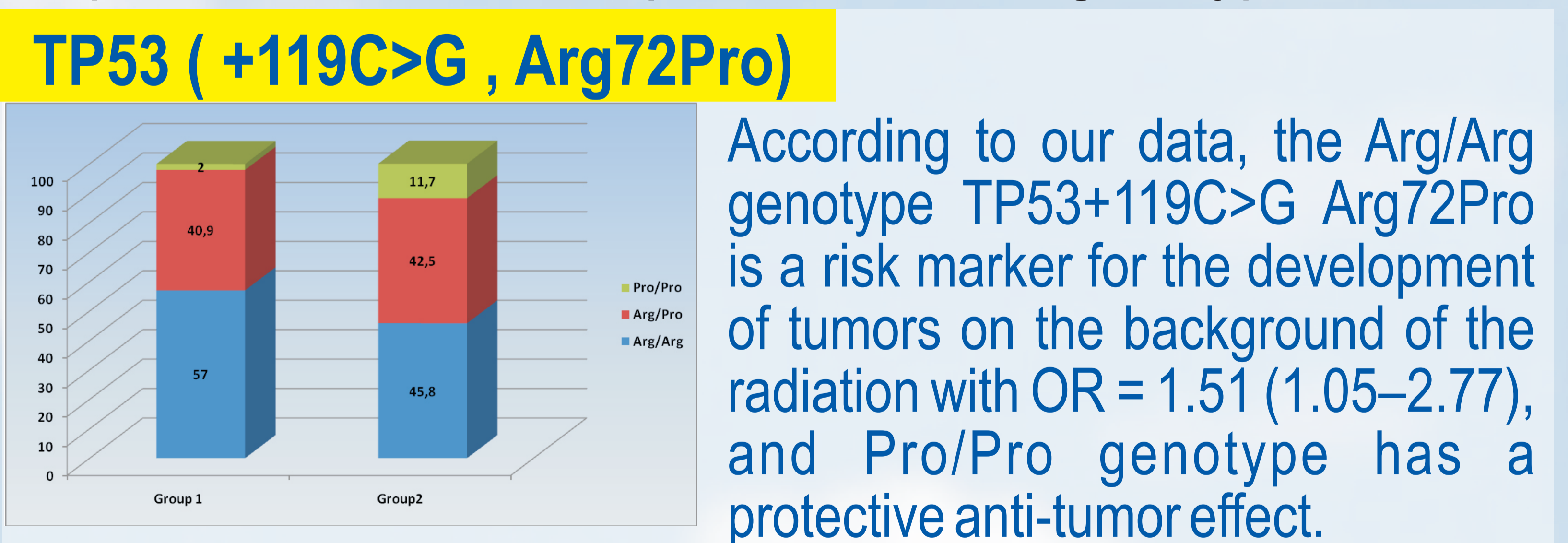
The purpose To compare the genotype distribution of polymorphic loci in cancer patients



3. RESULTS



Additional studies: samples blood DNA of SGCE employees with cancer (group1, 149 samples) and healthy SGCE employees' (group2, 908 samples) professionally exposed to the low-level γ -radiation, were genotyped.



4. CONCLUSION

1. Our studies have shown the phenomenon of the allelic imbalance in tumor tissues appeared on the background of low-level exposure and spontaneous tumors for the selected SNPs that indicates the universality of the mechanism inactivating heterozygous genotypes.
2. The directions of mutations at the heterozygous loci are different between sporadic tumors and tumors with the

irradiation background indicating that there are genetic differences between spontaneous and radiation carcinogenesis.

3. The distinct direction of the vector of mutations at the heterozygous locus in tumor tissues coincides with the associative model of data. Evaluation of allelic imbalance in tumor tissues may be used as an additional criterion to evaluate either the risk significance of polymorphic loci or the verifiability principle.