



STUDY OF MUTATIONS IN GENES METABOLIZERS OF CISPLATIN IN HEAD AND NECK CANCER



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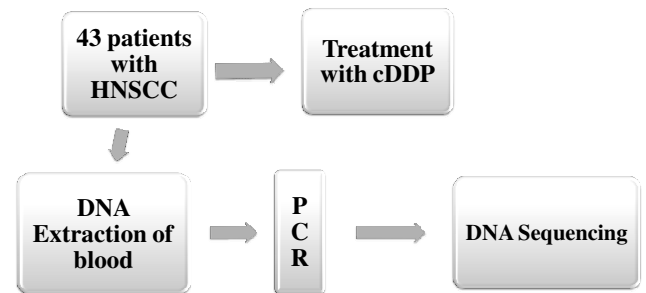
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INTRODUCTION:

The current goal is to individualize therapy for patients. Head and Neck Squamous Cell Cancer (HNSCC) is the sixth cause of cancer worldwide with a mortality rate nearly 50%. Oncology is one of the main areas attempts to achieve this "personalized medicine" and that have the greater difficulties in the pharmacological management. As oncology has a special focus in increase efficiency and decreases the toxicity of treatment, genotyping of the metabolizing enzymes is important for predicting chemotherapy response and adverse events of treatment. The main antitumoral drug used for HNSCC is cisplatin (cDDP). cDDP metabolizing enzymes genes are the glutathione S-transferases (GST) GSTM1, GSTP1 and GSTT1. So, the aim of this study is to analyze mutations in the genes GSTM1 and GSTP1.

PATIENTS AND METHODS:



The primers were design using reference sequence:
NM_000852 for *GSTP1*
NM_000561 for *GSTM1*

RESULTS:

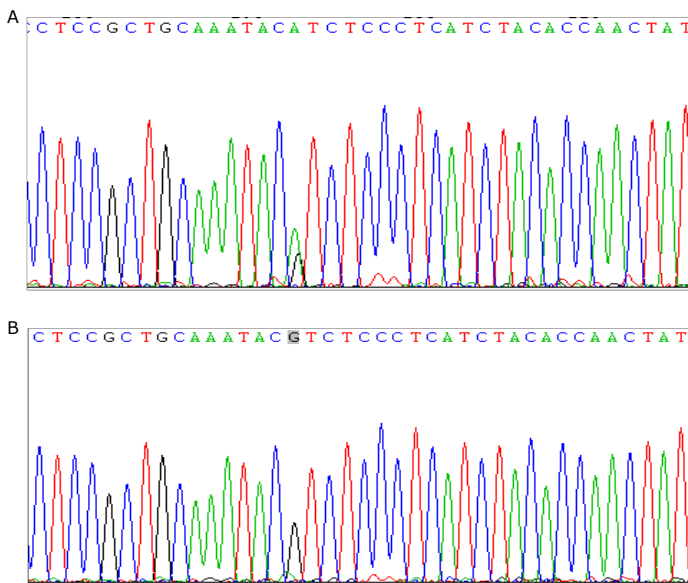


Figure 1: Examples of sequencing analysis of *GSTP1* gene. A) Heterozygous for *GSTP1* 313 A>G (Ile105Val) B) Homozygous mutant G/G for *GSTP1* (Val105Val)

Table 1. Mutations in *GSTP1* and *GSTM1* genes of 43 patients with HNSCC treated with cisplatin and frequency of the mutations

Gene	Mutation	Genotype	Nº of patients (%)
<i>GSTP1</i>	313 A>G (Ile105Val)	A/G	16 (37,21%)
		G/G	3 (6,98%)
		A/A	19 (44,2%)
<i>GSTM1</i>	Null allele		19 (44,2%)

GSTP1 313A>G (Ile105Val) have been related with reduced enzymatic activity, better survival free rates and more toxicity. The studies with *GSTM1* null allele are contradictory. Some of them present a better survival rate while others related diminished response to chemotherapy or no association.

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