

PHARMACOGENETIC STUDY OF THE EFFECT OF POLYMORPHISMS IN THE TRAILR1/TRAIL SYSTEM ON THE RESPONSE TO TREATMENT WITH RITUXIMAB IN FOLLICULAR LYMPHOMA PATIENTS



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BACKGROUND

The interindividual variability in drug response and toxicity is well known and may be related to genetic factors. TRAIL and TRAILR1 are proteins involved in the induction of apoptosis by the extrinsic pathway and may be implicated in the mechanism of action of the anti-CD20 agent, rituximab

PURPOSE

To assess the influence of the functional gene polymorphisms rs20576 TRAILR1 and rs12488654 TRAIL on response to treatment with rituximab in follicular lymphoma (FL) patients.



MATERIAL AND METHODS

FL patients treated with rituximab in combination with first line chemotherapy in a level 3 Hospital. The clinical response was assessed after the fourth cycle and treatment completed, response criteria used were proposed by the International Working Group:

- Complete Response (CR)
 - Partial Response (PR)
 - Stable Disease (SD)
 - Relapsed Disease (RD)
- } **non-responders (NR)**

Genes polymorphisms were determined by allelic discrimination using fluorescence probes and a 7500F real time thermocycler. Statistical analysis of the data was performed using the program Epidat 3.1 ($p < 0.05$ as statistically significant).

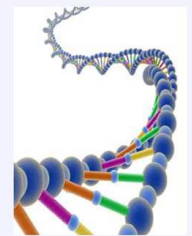
RESULTS

PATIENTS: 40

MEN: 60%

AVERAGE AGE: 58±16 YEARS

Pharmacogenetic study was performed to: **31** patients at the **fourth cycle** and to **39** at the **end of the treatment**



Distribution for response/genotypes:

AFTER FOURTH CYCLE

	POLYMORPHISM rs20576			
	AA (%)	CA (%)	CC (%)	
NR	1 (100)	0 (0)	0 (0)	P=0,3503
PR	8 (50)	8 (50)	0 (0)	
CR	10 (71,4)	4 (28,6)	0 (0)	

	POLYMORPHISM rs12488654			
	AA (%)	GA (%)	GG (%)	
NR	0 (0)	1 (100)	0 (0)	P=0,3930
PR	1 (6,3)	5 (31,3)	10 (62,5)	
CR	1 (7,1)	2 (14,3)	11 (78,6)	

TREATMENT COMPLETED

	POLYMORPHISM rs20576			
	AA (%)	CA (%)	CC (%)	
NR	1 (100)	0 (0)	0 (0)	P=0,9050
PR	4 (57,1)	3 (42,9)	0 (0)	
CR	17 (54,8)	13 (41,9)	1 (3,2)	

	POLYMORPHISM rs12488654			
	AA (%)	GA (%)	GG (%)	
NR	0 (0)	1 (100)	0 (0)	P=0,4908
PR	0 (0)	2 (28,6)	5 (71,4)	
CR	2 (6,7)	7 (23,3)	21 (70)	

There were no statistically significant differences between genotypes of polymorphisms and clinical response to rituximab after fourth cycle and treatment completed

CONCLUSIONS

According to the results of our study, genes polymorphisms rs20576 TRAILR1 and rs12488654 TRAIL do not appear to influence the response to treatment with rituximab in FL.

