The 12th World Congress on
CONTROVERSIES IN MULTIPLE MYELOMA (COMy)

INFLUENCE OF ANEMIA ON COGNITIVE FUNCTIONS IN MYELOMA PATIENTS MEASURED BY COMPLEX REACTIONMETER DRENOVAC

Marija Stanić Damić, Duška Petranović, Tajana Grenko Malnar, Zinaida Perić, Karin Kuljanić

Clinical hospital center Rijeka, Croatia
School of Medicine, University of Rijeka, Croatia

INTRODUCTION

The cancer/chemotherapy induced cognitive decline is nowadays well recognized in cancer patients. However, there is sparce specific literature data about cognitive impairment in Multiple Myeloma. All of them strongly confirm that cognitive disfunctions are present in high number of myeloma patients, influencing greatly their QoL. The aim of this report is to present our results measuring cognitive functions by computerized psychometric laboratory-CRD (Complex Reactionmeter Drenovac) (Picture 1) with special emphasize on influence of anemia on cognitive functions in therapy naive Myeloma patients.

METHODS: Cognitive functions has been evaluated in **14 therapy naive myeloma patients**, using CRD BATTERY TESTS (computerized psychometric laboratory which consists of 4 electronic instruments of the reactiometer sort).

Picture 1.
CRD battery

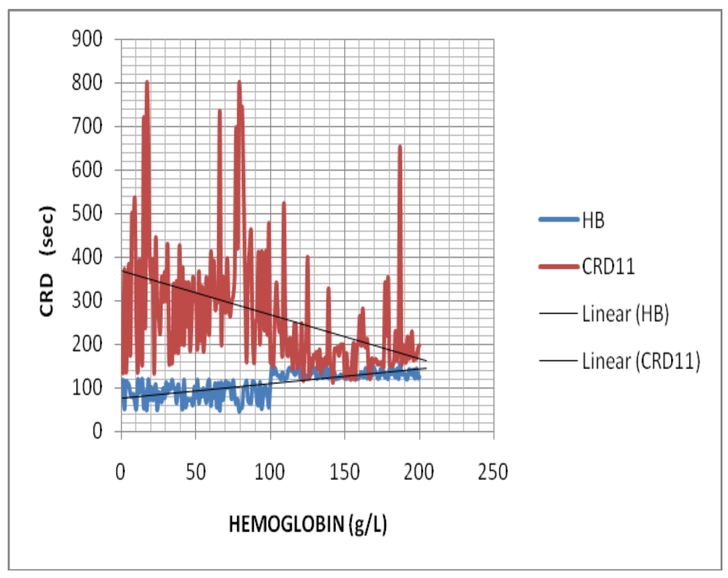
In our study, we carried out 7 standardized tests from the highest mental functions correlated with IQ to simple reactions on sound and light:

1. Convergent inductive thinking (CRD1)
2. Spatial visualisation (CRD 1-3)
3. Visual orientation (CRD 2)
4. Labyrinth learning ability (CRD 3-4)
5. Complex psychomotoric reaction (CRD411)
6. A simple psychomotoric reaction to a sound stimulus (CRD 423)
7. A simple psychomotoric reaction to a light stimulus (CRD 424)

RESULTS

DG: Multiple myeloma	Anemic (6 pts)	Non-anemic (8 pts)
GENDER	2M/4F	2M/6F
AVERAGE AGE	56y	54y
EDUCATION	2 low/2 med/ 2 higher	5 med/ 3 higher
Hb (g/dL)	9.6 (6.4-11.9)	13.0 (12.1-14.5)

CRD test	Non-anemic MM (8 pts)	Anemic MM (6 pts)	Other cancer + anemia (86 pts)	Healthy controls (100 pts)
CRD 11	180,19	355,14	336,65	141,36
CRD 13	186,06	328,25	306,81	160,75
CRD 21	62,2	126,48	123,97	55,0,8
CRD 341	101,94	142,61	152,66	82,5
CRD 411	72,38	92,35	90,71	46,63
CRD 433	12,209	14,68	15,4	10,87
CRD 434	10,79	12,81	13,28	9,47



Correlation of cognitive abilities (time to perform test CRD 11 in seconds) and hemoglobin level (g/L)

HEMOGLOBIN LEVEL IS IN POSITIVE CORRELATION WITH COGNITIVE ABILITIES

Results of CRD tests (total time to perform test in seconds) in non anemic and anemic Myeloma pts compared with pts with other types of cancer and healthy controls .

ANEMIC MYELOMA PTS HAVE THE WORST RESULTS COMPARED WITH ALL OTHER GROUPS IN ALMOST ALL COGNITIVE TASKS.

CONCLUSION

Our results, altough presented on very small number of patents, are showing that anemia has great negative impact on cognitive functions in Myeloma pts. Anemia is only one of the numerous potential reasons for cognitive decline in Myeloma pts. So, treating those pts one should be aware of importance of recognizing, preserving and improving cognitive functions as important part of QoL, taking into account all the parameters, esspecially reversible and treatable one as it is anemia.

REFERENCES

1.'Like a sieve': an exploratory study on cognitive impairments in patients with multiple myeloma. Potrata B, Cavet J, Blair S, Howe T, Molarriotis A. Eur J Cancer Care, 2010;19(6):721-8 2. Acute cognitive impairment in patients with multiple myeloma undergoing autologous hematopoietic stem cell transplant Jones D, Vichava D Wang XS, Sailors MH, Cleeland CS, Wefel JS, Cancer,2013;119(23) 3. Memory loss during lenalidomide treatment: a report on two cases. Rollin-Sillaire A et al, BMC Pharmacol Toxicol 2013;14:41 4. JS Wefel, J Vardy, T Ahles and SB Schagen. International Cognition and cancer Task Force recommendations to harmonise studies of cognitive functions in patients with cancer. Lancet Feb.2011.

CONTACT

marija.stanic@uniri.hr

https://comy.cme-congresses.com