

Expression of a Novel Tumor Associated Antigen (RHAMM/CD168) in CML Patients: Clinical Implications and Potentials for Specific Immunotherapy.

Heba M Gouda, MD, Mohsen M Abdel Mohsen, MD*

*Department of Clinical and Chemical Pathology, Department of Medical Oncology, Faculty of Medicine, Cairo University.

PAJO, January 2009, 2(1): 20-25

Abstract

RHAMM/CD168 is a cell surface receptor for hyaluronan, a glycosaminoglycan that plays a fundamental role in cell growth, differentiation and motility. It is one of the leukemia-associated antigens (LAA) identified in patients with myeloid leukemias. In the present study we aimed at studying the expression of RHAMM in chronic CML patients as an early diagnostic or prognostic procedure and a potential target structure for cellular immunotherapies.

Patients and Methods: RHAMM expression was tested in peripheral blood mononuclear cells of 60 CML patients divided into 2 groups, group A: 44 chronic phase CML patients, group B: 16 accelerated/blastic phase patients as well as 15 healthy volunteers by RT-PCR.

Results: demonstrated that 31.8% of our chronic CML patients showed positive RHAMM expression in contrast to 93.7% in the accelerated/blastic phase patients. Moreover within the chronic phase patients the RHAMM positive patients had a significant higher level of bcr-abl/abl ratio. This highlighted the contribution of RHAMM expression with CML disease progression.

Conclusion: the high prevalence of RHAMM expression in CML patients especially the accelerated/blastic phase favors the use of RHAMM R3 peptide for patient vaccination together with conventional therapy in order to achieve complete molecular remission or at least prevent disease progression.