soho2023
ELEVENTH ANNUAL MEETING

CLINICAL IMPACT OF CD200 EXPRESSION ON OUTCOME OF AML

L.GIRSHOVA MD, PhD[1], A.SHATILOVA MD[1], I.BUDAEVA MD[2], Y.MATVIENKO MD[1], K. LEVCHUK[1], J. MIROLUBOVA PhD[1], J. ALEXEEVA MD, PhD[2], E.LOMAIA MD, PhD[1]

1. Personalized Medicine Centre, Almazov National Medical Research Centre, Saint Petersburg, Russian Federation.
2. Almazov National Medical Research Centre, Saint Petersburg, Russian Federation

INTRODUCTION

AML cells escape from immunosurveillance by immunosuppression mediated by immunosuppressive ligands. Cluster of differentiation (CD)-200 is a transmembrane cell surface glycoprotein belonging to the type 1 immunoglobulin superfamily. Expression of CD200 has been associated with a poor prognosis in lymphoproliferative disorders. Because of the somewhat conflicting results of CD200 expression in AML, its importance in AML patients remains to be identified.

OBJECTIVE

To analyze the prognostic significance of CD200 expression in newly diagnosed adult patients with AML in our department.

DESIGN

51 previously untreated AML patients with a median age of 46 years (range, 21–70 years) were included.

According to the European LeukemiaNet (ELN) classification, 16.4% were assigned as favorable, 45.5% as intermediate risk, and 38.1% as adverse risk.

Interventions:

- 7+3 and high-dose cytarbine [HiDAC] - 41 patients;
- azaciticine-venetoxlax [AZA-VEN] – 10 patients);
- 23 patients underwent HSCT.

We analyzed the relationship between CD200 expression and complete remission (CR) after first chemotherapy, early relapse (ER), and overall survival (OS).

RESULTS

Patients were divided into positive and negative groups according to CD200 expression. CD200 was positive in 33/51 patients (60%).

There were no differences between groups in parameters such as sex, age, white blood cell count, and percentage of bone marrow blast cells.

IDH1/2, *ASXL1*, *NPM1*, *FLT3* internal tandem duplication, and *DNMT3A* were the most commonly affected genes.

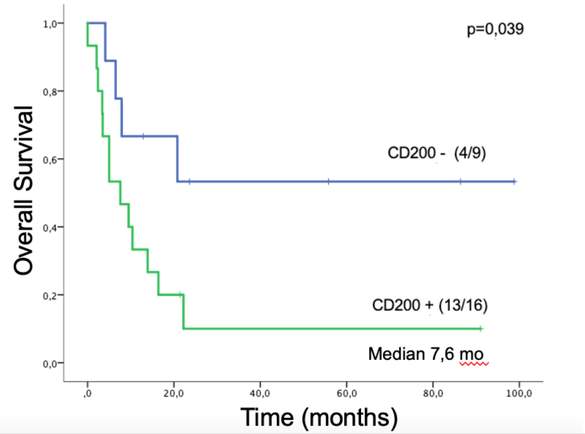
NPM1 mutation occurred significantly more frequently in the CD200-negative group than in the CD200+ group (33.3% vs 3%; P=0.003).

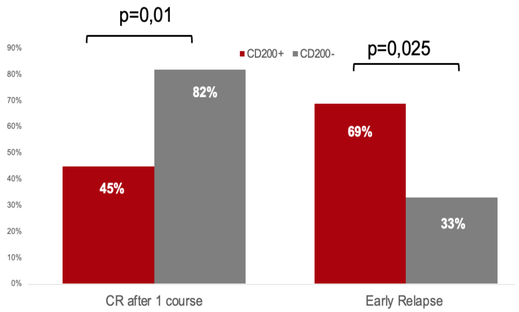
CD200+ patients had significantly lower probability of attaining CR after first induction chemotherapy: 15/33 (45.5%) vs 14/17 (82%) in the CD200-negative group (P=0.01).

The ER rate in the CD200+ group was higher than in the CD200-negative group (69% vs 33%; P=0.025).

For chemotherapy-alone patients, median OS was 7.6 months in the CD200+ group and not reached in the CD200-negative group (P=0.031).

OS in the group of patients without alloHSCT in 1 CR





	All patients	CD200 +	CD200 -	p
CR after 1 course	58% (29/50)	45,5% (15/33)	82% (14/17)	0,01
CR	86% (43/50)	81,8% (27/33)	94,1% (16/1)	>0,05
Early relapse	54% (12/22)	69% (9/13)	33% (3/9)	0,025

CONCLUSIONS

Expression of CD200 in AML indicates a low remission rate after the first course of chemotherapy and reduces long-term survival in patients receiving chemotherapy alone. HSCT may reduce the adverse effects of CD200 expression in AML patients. Furthermore, CD200 may be a promising future target for immunotherapy.

CONTACT INFORMATION

Presenting author: Larisa Girshova

+7(921) 740-49-97 lgirshova@gmail.com