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# Tumor CD20 Loss and Poor Outcome in Relapsed/Refractory (R/R) Diffuse Large B-Cell Lymphoma (DLBCL)

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## INTRODUCTION

Combination anti-CD20 plus chemotherapy is the standard care for DLBCL, with 70% of patients cured initially. More than 50% will relapse with disease escape remaining a major issue. CD20 loss was identified as a resistance mechanism; however, its frequency and impact on outcomes are unclear

## AIM

This study investigates the incidence and OS based on CD20 and CD19 tumor expression.

## METHOD

Prospective, observational cohort study includes :

*patients ≥18 years old

*histologically confirmed R/R DLBCL

*received ≥1 prior line of systemic treatment, including rituximab plus anthracycline-based chemotherapy, at Gustave Roussy Institute (France).

Clinical characteristics at relapse, previous therapies, histopathological characteristics, and CD20/CD19 expression by immunochemistry were recorded.

Primary outcome was 1-year OS according to CD20/CD19 expression, with a secondary endpoint of 1-year OS according to cell of origin at the time of RR-DLBCL biopsy.

## RESULTS

From September 2013 to February 2024, 172 patients (63 female, 109 male) with a median age of 66 (26-87) years were included.

At biopsy, the median number of prior therapies was 2 (1-9); 33 (19%) previously underwent ASCT and 30 (17%) received CAR T cells; 88 (51%) had germinal center B-cell (GCB) DLBCL, 76 (44%) non-GCB.

From relapse at tumor sampling, median follow-up was 3.5 years (95%CI: 2.7- 5), with an OS of 27% (95%CI: 20-36).

All patients were checked for CD20 positivity at diagnosis, with CD20 loss or CD20 weak expression observed in 30/172 (17%) and 7/172 (4%) patients, respectively.

In the matched cohort (n=160), 1-year OS was significantly lower for patients with CD20 loss compared to those with CD20-positive biopsy (36% [95%CI: 23-57] vs 49% [95%CI: 40-59]; P=0.0001). Among patients with available CD19 staining (n=37), CD19-negative (n=8) and CD19-positive (n=29) patients had similar 1-year OS—(33% [95%CI: 12-96] vs 39% [95%CI: 23-66]; P=0.3).

One-year OS was similar in patients with GCB (45% [95%CI: 36-57]) or non-GCB (44% [95%CI: 33-57]; P=0.64) R/R DLBCL.

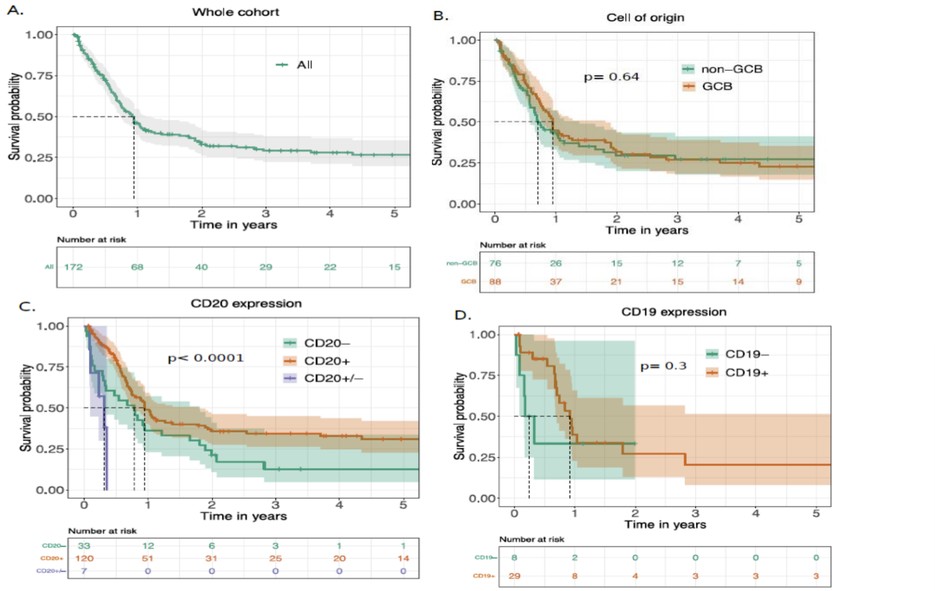



Figure legend. One-year overall survival of whole cohort (A), according to cell of origin (B),CD20 (C) and CD19 (D) expression. The cell of origin was determined according to Hans algorithm. The CD20 and CD19 expression were performed by immunochemistry (L26 and DAKO mousemonoclonal antibody respectively) according to the facility automated protocol (Ventana Benchmark Ultra, Roche) and were graduated as positive (+), weak(+/-) or loss (-). GCB: Germinative center B-cell

## CONCLUSIONS

CD20 loss occurred in 17% of RR-DLBCL patients and was associated with poor prognosis.

CD19 expression did not impact outcomes.

However a larger cohort and longer follow-up are needed to understand its significance. Checking CD20 and CD19 antigen positivity is essential for adapting therapies for R/R DLBCL patients.