Diffuse large B-cell lymphoma (DLBCL) is the most common subtype of non-Hodgkin lymphoma, a hematological cancer.

Exploring Disease Landscapes to Manage R-CHOP Therapy-Resistant Diffuse Large B-cell Lymphoma

Poor survival outcome and high R-CHOP resistance calls for tailored approach to manage the disease.

What are the mechanisms underlying R-CHOP resistance in DLBCL?

R-CHOP regimen
- Rituximab
- Cyclophosphamide
- Doxorubicin
- Vincristine
- Prednisone

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Four robust DLBCL clusters
- C1
- C2
- C3
- C4
- C5

Cell of origin
- Major DLBCL subtypes
  - Germinal center B-cell-like (GCB)
  - Activated B-cell-like (ABC)

Five robust DLBCL clusters
- C1
- C2
- C3
- C4
- C5

R-CHOP resistance in DLBCL correlates with clonal evolution.

Biological factors
- Poor survival outcome and high R-CHOP resistance calls for tailored approach to manage the disease.

Clonal evolution
- R-CHOP resistance in DLBCL correlates with clonal evolution.

Clinical evolution
- Poor survival outcome and high R-CHOP resistance calls for tailored approach to manage the disease.

Tumor microenvironment
- Poor survival outcome and high R-CHOP resistance calls for tailored approach to manage the disease.

Multi-drug resistance (MDR)
- High expression of proteins associated with MDR (Pgp, MRP-1, ABCG2) correlates with poor outcomes.

Epigenetic modifications
- DNA methylation/transferase azacitidine followed by R-CHOP can be a feasible therapy for newly diagnosed DLBCL.

Signaling pathways
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Genetic factors
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Proper classification of patients with DLBCL and identification of R-CHOP non-responders at diagnosis are critical for management of resistant DLBCL.