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# Title

**The Bulky mass in diffuse large B Cell Lymphoma: Prognostic impact? A treatment guiding factor?**

Authors H. Masrour, S. Bouchnafati, N. Saddiq, W. Rhandour, A. Oudrhiri, M. Bouzayd, L. Abarkan, L. Lerhrib, R. Hanini, Y. Chekkori, F. Tohir, N. Oubelkacem, M. Ouazzani, N. Alami Drideb, Z. Khammar, R. Berrady

## Introduction

Diffuse large-cell malignant non-Hodgkin's lymphoma is the most common type of non-Hodgkin's lymphoma. The prognosis of this condition has improved considerably since the introduction of rituximab, in combination with conventional chemotherapy. Prognostic stratification and risk assessment is an imperative part of the treatment of these patients, and it is done routinely thanks to The IPI prognostic score. Studies have demonstrated the predictive effect of bulky mass on the prognosis of these patients, particularly in localized stages, as well as its impact on first-line response and relapse. Screening for bulky mass and residual mass after treatment is one of the methods recommended to identify high-risk patients for non-response and relapse, in order to optimize therapeutic management and follow-up as soon as diagnosis is made. In this study, we aim to evaluate the prognostic impact of the bulky mass in our patients with DLBCL.

## Methodolgy

This is a retrospective, descriptive and analytical study of newly diagnosed DLBCL patients followed up in an internal medicine and onco-hematology department between January 2018 and December 2021. Data were collected using a computerized system (HOSIX). A Bulky was defined as a mass exceeding 7 cm in large diameter. Statistical analysis was performed with IBM SPSS Statistics. Survival analyses with corresponding P-values were calculated using the Kaplan-Meier method.

## Results

We analyzed 184 DLBCL patients treated in our hospital between 2018 and 2021. A bulky tumor was detected in 66 patients (35.86%). The sex ratio F/M is 1. Age ranged from 16 to 87 years, mean age at diagnosis 56.01 years. The average diagnostic delay was 5.9 months. Among our patients with a bulky, 60.60% had B-signs at diagnosis, and 74.24% presented with clinically evident tumor syndrome. The performans status (PS) was 2 or higher in 21 patients.

Blood count revealed anemia in 34.84% of patients, lymphopenia in 30.30% of patients, and thrombocytopenia in 3 cases. Inflammatory markers (ESR and C-reactive protein) were elevated in 39.3% of patients, LDH was up to normal in 78.78% of cases and hypoalbuminemia in 36% of patients. The CT-scan showed that 20 patients had limited stage disease (Ann Arbor I or II). Low IPI was found in 48.48% of patients and thrombosis was observed in 14 patients (21.21%).

Among our patients with bulky mass, 12 patients passed away before the start or completion of 4 cycles of treatment, and three were lost to follow-up.

A total of 48 patients received the R-CHOP regimen as first-line treatment, while 3 cases of mediastinal Bulky received DA-R-EPOCH protocol. After first-line, 33 patients achieved complete remission, while 18 required second-line therapy, of whom 13 patients were deemed refractory. We have lost 8 of them. In total, 76% of our patients with Bulky mass and who completed their therapy, responded to the treatments initiated.

Bulky mass was associated with skin involvement (p=0.037), lymphopenia (p=0.035), high CRP (p=0.018), high LDH (p=0.001), CD45 positivity (p=0.009), a proliferation index above 80% (p=0.002), high IPI (p=0.026), thrombosis (P=0.001) and death (p=0.0001).

The 4-year survival of patients with a bulky mass was 40.5% versus 78.2% of patients without a bulky mass, with p=0.0001.

## Conclusion

Our study highlights the aggressive form of the DLBCL in patients with a bulky mass, with complications occurring before and after the start of treatment. As well as its impact on non-response and death. This prompts the necessity to improve therapeutic management in this group of patients, and to consider consolidation therapy in such cases. As reported in other studies, consolidative radiotherapy can be considered for bulky and residual mass after immunochemotherapy.