# CONCURRENT HIGH-RISK FEATURES IN MANTLE CELL LYMPHOMA: FREQUENCY AND IMPACT

**Carla Isabel Borre MD, MPH[1], Muhammad Azeem Khan MBBS[1], Aishwarya Pradeep MD[1], Ayo Samuel Falade MD, MBA[1], Laura Carola Magnano Mayer MD[1], Michelle Thorensen RN[1], Julia Wang[1,2], Enaya Epps[2], Adrienne Nedved PharmD, RPh, BCOP[1], Robin Klebig APRN, CNP, MSN[1], Gita Thanarajasingam MD[1], Urshila Durani MD, MPH[1], Arushi Khurana MBBS[1], JC Villasboas Bisneto MD[1], Jonas Paludo MD[1], Stephen Ansell MD, PhD[1], Thomas Habermann MD[1], Thomas Witzig MD[1], Yucai Wang MD, PhD[1], Jithma Abeykoon MD[1]**

1 Mayo Clinic, Rochester, MN, USA. 2 Century High School, Rochester, MN, USA

## INTRODUCTION

Mantle cell lymphoma (MCL) has a wide spectrum of outcomes influenced by clinical and biological features, some of which are included in the Mantle Cell Lymphoma International Prognostic Index combined (e.g., Ki-67). However, the prevalence and impact of high-risk features such as TP53 mutation and blastoid or pleomorphic morphology have not been well characterized.

## AIM

To describe the prevalence of concurrent high-risk features including TP53 mutation, Ki-67 ≥30%, and blastoid or pleomorphic morphology, in MCL, and their impact on progression-free survival (PFS) and overall survival (OS).

## METHOD

- Retrospective study of routine clinical practice at Mayo Clinic (Rochester, MN).
- Patients with MCL diagnosed between 2008 and 2026, with known TP53 mutation status (clinical next-generation sequencing), morphology, and Ki-67.
- PFS and OS were analyzed by the Kaplan-Meier method.

## CONCLUSIONS

The accumulation of high-risk features in MCL identifies a subgroup with inferior PFS and OS, supporting comprehensive risk stratification incorporating TP53, morphology, and Ki-67.

## RESULTS

**Patients (N=104):** Baseline characteristics are presented in Table 1.

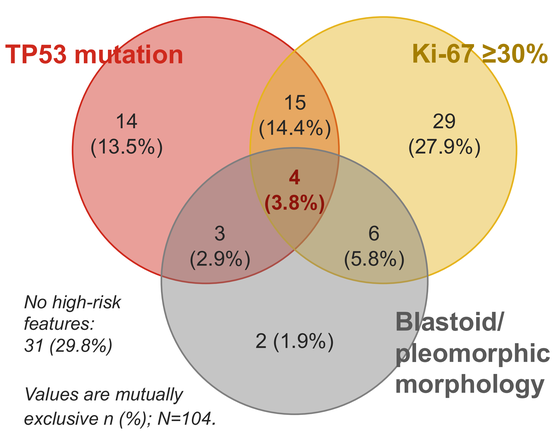
**High-risk features:** Prevalence and co-occurrence of high-risk features are shown in Figure 1.

**Survival:** Median PFS was 6.8 (95% CI: 4.0–NR), 5.3 (95% CI: 1.6–NR), 4.3 (95% CI: 2.1–NR), and 0.5 years (95% CI: 0.08–NR) for 0, 1, 2, and 3 features, respectively (P<0.0001). Median OS declined from 9.4 years (95% CI: 3.66–NR) for 1 feature to 0.41 years (95% CI: 0.08–NR) for 3 features. PFS and OS were similar between frontline chemoimmunotherapy and BTKi-based therapy when grouped by number of features.

**Table 1. Baseline characteristics**

| Characteristic | N=104 |
|---|---|
| Median age, years (range) | 67 (30–89) |
| Male sex | 76.9% |
| Stage 3–4 | 95.0% |
| Median follow-up, years (95% CI) | 3.9 (3.2–5.7) |
| Frontline chemoimmunotherapy | 73.5% |
| Frontline BTKi-based therapy | 26.2% |

**Figure 1. Prevalence and overlap of high-risk features**




**PFS WORSENS WITH ACCUMULATION OF THESE HIGH-RISK FEATURES**

| High-risk features | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Median PFS, years | 6.8 | 5.3 | 4.3 | 0.5 |

P < 0.0001

*BTKi: Bruton tyrosine kinase inhibitor; CI: confidence interval; MCL: mantle cell lymphoma; NR: not reached; OS: overall survival; PFS: progression-free survival.*

## REFERENCES

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## CONTACT INFORMATION

Carla Isabel Borre MD, MPH
Mayo Clinic, Rochester, MN

**Borre.Carla@Mayo.Edu**