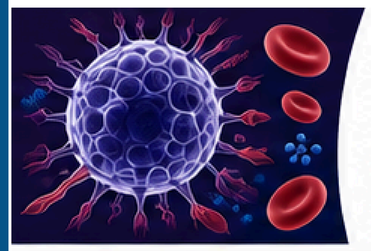


Efficacy and Safety of Sonrotoclax (BGB-11417/Beqalzi) in Relapsed/Refractory Mantle Cell Lymphoma: A Systematic Review and Meta-Analysis

Edith Ramos Ocola[1], Rithvika Badugu[2], Varun kumar Daram[3], Arpita Vinubhai Kanpariya[4], Harshawardhan Dhanraj Ramteke[5], Rakhshanda khan[6]

[1]Universidad Nacional de San Agustín de Arequipa, Arequipa, Peru; [2]Gandhi medical college, Hyderabad, India; [3]Gandhi medical college, Hyderabad, India; [4]Pramukh Swami Medical College, Surat, India; [5]Rhythm heart and critical care hospitals, Nagpur, India; [6]Ayaan insittute of medical sciences, Moinabad, India

INTRODUCTION

- Mantle cell lymphoma (MCL) is an aggressive B-cell non-Hodgkin lymphoma with poor outcomes after relapse.
- Patients relapsing after Bruton tyrosine kinase inhibitors (BTKi) have limited therapeutic options and inferior survival.
- Sonrotoclax (BGB-11417/Beqalzi) is a highly selective, next-generation BCL-2 inhibitor with favorable preclinical and early clinical activity.
- Sonrotoclax recently received accelerated FDA approval for relapsed/refractory (R/R) MCL.
- This meta-analysis evaluates pooled efficacy and safety of sonrotoclax-based regimens in heavily pretreated R/R MCL.

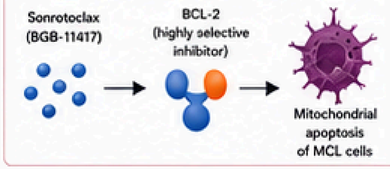
OBJECTIVE

To evaluate the efficacy and safety of sonrotoclax-based regimens in patients with relapsed/refractory mantle cell lymphoma (R/R MCL) using a systematic review and meta-analysis.

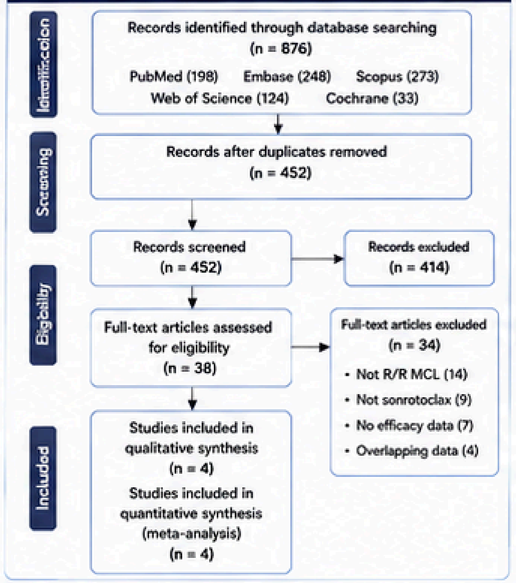
METHODS

Design: Systematic review and meta-analysis
Databases: PubMed, Embase, Scopus, Web of Science, Cochrane Library
Population: Patients with R/R mantle cell lymphoma (heavily pretreated)
Intervention: Sonrotoclax (BGB-11417) based regimens (monotherapy or combination)
Comparator: Not applicable (single-arm cohorts)
Primary Endpoints: Overall response rate (ORR), Complete response (CR) rate
Safety Endpoints: Grade ≥3 hematologic AEs, tumor lysis syndrome (TLS)
Statistical Analysis: Random-effects model (Stata 18.0)
Risk of Bias: RoB 2.0 tool

MECHANISM OF ACTION



STUDY SELECTION (PRISMA FLOW DIAGRAM)



STUDY & PATIENT CHARACTERISTICS

Study (Year)	Design	Regimen	Patients (N)	Median Prior Lines (Range)
BGB-11417-201 (Pivotal Cohort)	Prospective single-arm	Sonrotoclax (monotherapy)	103	3 (1–8)
RP2D Cohort	Prospective single-arm	Sonrotoclax (monotherapy)	24	4 (2–9)
Sonrotoclax + Zanubrutinib Cohort	Prospective single-arm	Sonrotoclax + Zanubrutinib	10	3 (2–7)
Additional Cohort	Prospective single-arm	Sonrotoclax (monotherapy)	8	3 (2–6)
Total			145	

RISK OF BIAS (RoB 2.0)

Study	Randomization Process	Deviations from Intended Interventions	Missing Outcome Data	Measurement of Outcome	Selection of Reported Result	Overall Risk of Bias
BGB-11417-201	+	+	+	+	+	Low
RP2D Cohort	+	+	+	+	+	Low
Sonrotoclax + Zanubrutinib Cohort	+	+	+	+	+	Low
Additional Cohort	+	+	+	+	+	Low

+ Low risk ! Some concerns × High risk

RESULTS

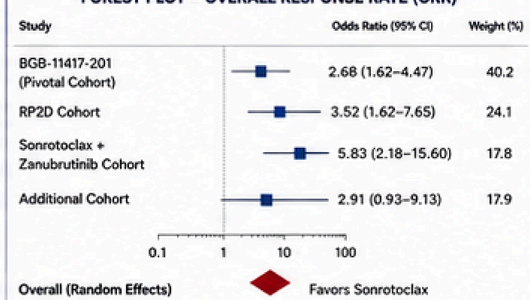
POOLED ORR
3.84
(95% CI: 2.41–6.12)
p < 0.001

POOLED CR RATE
2.17
(95% CI: 1.28–3.69)
p = 0.004

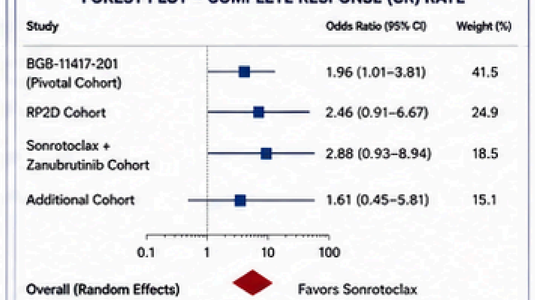
MEDIAN DURATION OF RESPONSE
15.8 months
(RP2D Cohort)

TLS INCIDENCE
1.4%
(95% CI: 0.2%–4.9%)

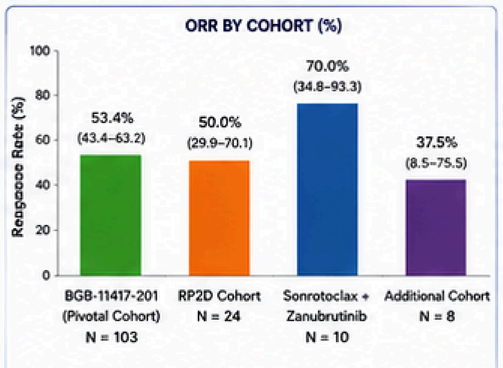
FOREST PLOT – OVERALL RESPONSE RATE (ORR)



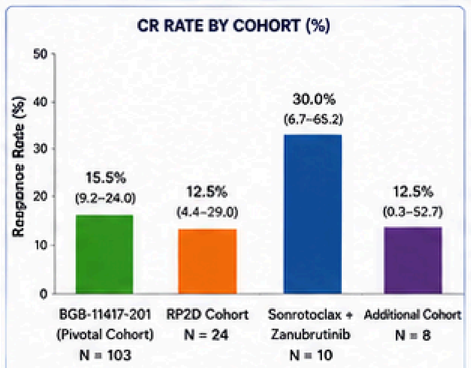
FOREST PLOT – COMPLETE RESPONSE (CR) RATE



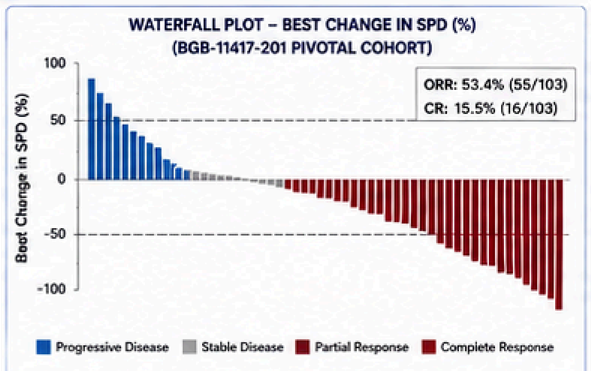
ORR BY COHORT (%)



CR RATE BY COHORT (%)



WATERFALL PLOT – BEST CHANGE IN SPD (%) (BGB-11417-201 PIVOTAL COHORT)



SUBGROUP: HEMATOLOGIC AEs (GRADE ≥3)

Adverse Event	Pooled Incidence (95% CI)	Risk Ratio (95% CI)	p-value
Neutropenia	19.3% (13.1–26.8)	1.42 (1.08–1.87)	0.011
Thrombocytopenia	8.2% (4.3–14.1)	1.36 (0.93–1.99)	0.107
Anemia	6.9% (3.4–12.7)	1.21 (0.76–1.92)	0.418
Febrile Neutropenia	4.8% (2.1–9.7)	1.18 (0.68–2.05)	0.559
Tumor Lysis Syndrome (Clinical)	1.4% (0.2–4.9)	0.98 (0.28–3.45)	0.972

0.1 1 10
Favors Sonrotoclax Favors Control

CONCLUSION

Sonrotoclax demonstrates clinically meaningful efficacy with durable responses and manageable toxicity in heavily pretreated R/R mantle cell lymphoma. The pooled ORR (53.4% in pivotal cohort; up to 70.0% with combination) and CR rate, with low clinical TLS incidence (1.4%) and acceptable hematologic toxicity, support its emerging role as a foundational BCL-2–targeted therapy. Overall risk of bias across included studies was low using RoB 2.0 assessment.

High Response Rates
ORR up to 70.0% with combination

Durable Responses
Median DOR 15.8 months

Manageable Safety
Low TLS (1.4%) and acceptable AEs

Promising Role
Emerging foundational BCL-2 targeted therapy