

Day 3 – Sunday 1/21/24 Session XI: Lymphoma Session B-Cell NHL (Low Grades)

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Treatment Dilemmas in 1st Line Advanced FL

Should I still Watch and Wait? What is the optimal chemotherapy backbone?

Does the CD20 mAB matter?

Maintenance or not?

What about "chemo-free"?

Low Tumor Burden FL: Should I Still W&W?



Improved PFS and TTNT: Rituximab compared to Watch and Wait

Arguments for W&W

- Treatment does not impact OS
- 15-20% not received treatment after 10 years
- 12% spontaneous disease reduction

BUT:

- Median time to needing treatment: 2.5 years
- Psychological impact/QoL

Which Anti-CD20? Rituximab (R) vs Obinutuzumab (G): Final Analysis of the GALLIUM Study

GALLIUM study design:



*Stratified by chemotherapy, FLIPI risk group and geographic region; †CHOP q3w × 6 cycles, CVP q3w × 8 cycles, bendamustine q4w × 6 cycles; choice by site; §Patients with SD at EOI were followed for PD for up to 2 years.

	Endpoints	
Primary endpoint	Secondary and other endpoints	
 PFS (INV-assessed in FL) 	 PFS (IRC-assessed) OS, EFS, DFS, DoR, TTNLT 	 CR/ORR at EOI (+/- FDG-PET) Safety

N =1202 previously untreated advanced FL patients

Final Analysis of the GALLIUM Study: PFS and OS

PFS: G-chemo vs R-chemo



PFS benefit maintained with G-chemo vs R-chemo **OS: G-chemo vs R-chemo**



Overall survival similar between G-chemo vs R-chemo

Value in Adding Maintenance After 1st Line Rituximab-Chemotherapy? Yes, it increases PFS: PRIMA study update



Value in BR/OB-treated patients unclear

Salles G et al. Lancet. 2011;377:42-51. Bachy E et al. J Clin Oncol. 2019;37:2815-2824.

Can We Improve Upon First Line: Chemo-Free Combination? RELEVANCE trial – R² (Rituximab + Lenalidomide) vs R-Chemo

International, randomized phase III study



Co-primary endpoints (superiority): CR/CRu at 120 wks, PFS

Can We Improve Upon First Line: Chemo-Free Combination? **RELEVANCE trial – R² (Rituximab + Lenalidomide) vs R-Chemo**



Safety

Higher gd 3-4 neutropenias in R-chemo (50% vs 32%)

Higher gd 3-4 cutaneous rxns in R² (7% vs 1%)

Outcomes

	R-chemo N = 517	R ² N = 513
3yr PFS % (95% Cl)	78 (74-82)	77 (72-80)
CR rates (%)	33	28
3yr OS %	94	94

Summary of Frontline Treatment in Advanced Stage FL in 2024

Anti-CD20 + chemotherapy remains the standard first line therapy

- BR, R-CHOP, R-CVP choice is patient-specific
- Rituximab maintenance improves PFS, but no difference in OS
- Obinutuzumab-chemo improves PFS, but no difference in OS compared to R-chemo
- R2 not superior to R-chemo, but appears comparable, potential option if the goal is to avoid chemotherapy
- Consider a clinical trial as there are several novel therapies
 moving into frontline vs. R-chemo



R/R FL: POD24 is associated with inferior survival

- Biopsy recommended to detect histologic transformation of FL, which is reported to occur at a rate of 2% per year¹
 - If concerned for clinical transformation and biopsy is not pursued, would treat as DLBCL²
- Early progression of disease (≤2 years) after frontline chemoimmunotherapy (POD24) occurs in approximately 20% of patients
 - Associated with a poor prognosis³
 - Represents a population that should be targeted for trials.



1. Link BK, et al. *J Clin Oncol.* 2013;31:3272. 2. Casulo C, Barr PM. *Blood.* 2019;133:1540. 3. Casulo C, et al. *J Clin Oncol.* 2015:33:2516.

R² vs R in R/R FL and MZL Phase III AUGMENT Study



Stratification

- Prior rituximab (yes vs no)
- Time since last therapy ($\leq 2 vs > 2 y$)
- Histology (FL vs MZL)

Leonard J et al. J Clin Oncol. 2019;37:1188-1199.

R² vs R in R/R FL and MZL Phase III AUGMENT Study: PFS, OS

Progression-free Survival

Overall Survival



Median PFS	R² (n=178)	R-Placebo (n=180)	HR	<i>P</i> Value
By IRC, mo (95% CI)	39.4 (22.9-NE)	14.1 (11.4-16.7)	0.46 (0.34-0.62)	<0.0001
By INV, mo (95% CI)	25.3 (21.2-NE)	14.3 (12.4-17.7)	0.51 (0.38-0.69)	<0.0001

Median follow-up: 28.3 months

Leonard J et al. J Clin Oncol. 2019;37:1188-1199.

Tazemetostat for R/R FL Phase 2, Open-Label, Multicenter Study



^aFor a full list of study eligibility criteria, please see Clinicaltrials.gov/ct2/show/NCT01897571. ^bActual enrollment: n=54. cORR defined as the number of participants with a best objective response of CR or PR.

Tazemetostat for R/R FL Phase 2, Open-Label, Multicenter Study

Response in the MT EZH2 Cohort

Response in MT EZH2 (n=45)	IRC	INV
ORR, n (%) [95% Clª]	31 (69) [53, 82]	35 (78) [63, 89]
CR, n (%)	6 (13)	4 (9)
PR, n (%)	25 (56)	31 (69)
SD, n (%)	13 (29)	10 (22)
PD, n (%)	1 (2)	0

- 44 of 45^b (98%) patients with evidence of tumor reduction, by IRC
- mPFS, 13.8 mos (95% CI, 10.7-22.0)

^aBy Brookmeyer and Crowley method. ^b4 subjects with missing post-baseline values and 1 subject with poor image. ^cBest overall response based on Cheson (2007) criteria for lymphomas.

Response in the WT *EZH2* Cohort

Response in WT EZH2 (n=54)	IRC	INV
ORR, n (%) [95% Clª]	19 (35) [23, 49]	18 (33) [21, 48]
CR, n (%)	2 (4)	3 (6)
PR, n (%)	17 (31)	15 (28)
SD, n (%)	18 (33)	16 (30)
PD, n (%)	12 (22)	16 (30)
NE/missing/unknown, ^b n (%)	5 (9)	4 (7)

- 37 of 49^c (69%) patients with evidence of tumor reduction, by IRC
- mPFS, 11.1 mos (95%Cl, 3.7-`14.6)

ZUMA-5: Axicabtagene Ciloleucel for Relapsed/Refractory Indolent NHL (FL or MZL)

Single-arm phase II study of axicabtagene ciloleucel for patients with R/R indolent B-cell NHL (FL or MZL) with ≥2 prior therapies (N = 110 eligible for efficacy analysis)



CRS grade ≥3, 7% (6% FL); neurotoxicity grade ≥3, 19% (15% FL); tocilizumab, 49%; corticosteroids, 36%

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Neelapu SS et al. ASH 2021. Abstract 93.

ZUMA-5 CRS and Neurologic Events

		CRS ^a		Ν	eurologic Even	its ^a
	FL	MZL	All Patients	FL	MZL	All Patients
Parameter	(n=124)	(n=22)	(N=146)	(n=124)	(n=22)	(N=146)
Any grade	97 (78)	22 (100)	119 (82)	70 (56)	17 (77)	87 (60)
Grade ≥3	8 (6)	2 (9)	10 (7)	19 (15)	9 (41)	28 (19)
Most common CRS symptoms of any grade, i	/n (%)					
Pyrexia	94/97 (97)	20/22 (91)	114/119 (96)	-	-	-
Hypotension	39/97 (40)	10/22 (45)	49/119 (41)	-	-	-
Most common neurologic events of any grad	e, n/n (%)					
Tremor	-	-	-	36/70 (51)	9/17 (53)	45/87 (52)
Confusional state	-	-	-	28/70 (40)	7/17 (41)	35/87 (40)
Tocilizumab use, n (%)	56 (45)	15 (68)	71 (49)	7 (6)	2 (9)	9 (6)
Corticosteroid use, n (%)	19 (15)	6 (27)	25 (17)	38 (31)	14 (64)	52 (36)
Median time to onset (range), days	4 (1–15)	4 (1–9)	4 (1–15)	7 (1–177)	7 (3–19)	7 (1–177)
Median duration of events (range), days	6 (1–27)	6 (2–14)	6 (1–27)	14 (1–452)	10 (2–81)	14 (1–452)
Patients with resolved events, n/n (%)	96/97 (99) ^b	22/22 (100)	118/119 (99) ^b	67/70 (96)	14/17 (82)	81/87 (93)

ELARA Study Design



• Bridging therapy was allowed and was followed by disease re-evaluation before tisagenlecleucel infusion

CAR, chimeric antigen receptor; CD, cluster of differentiation; CRR, complete response rate; DOR, duration of response; FL, follicular lymphoma; FL3B, FL grade 3B; HSCT, hematopoietic stem cell transplant; IRC, independent review committee; IV, intravenous; ORR, overall response rate; OS, overall survival; PFS, progression-free survival.

^aDisease was reassessed prior to infusion for all patients requiring bridging therapy. ^bInfusion was conducted on an in- or outpatient basis at investigator discretion. ^cEvery 3 months until Month 12, and every 6 months until end of study. ^dRefractory to ≥2nd line of systemic therapy (including an anti-CD20 antibody and alkylating agent) or relapsed within 6 months after ≥2nd line of therapy or after an autologous HSCT.

36-Month PFS and OS Rates Were Consistent Among Patients With and Without POD24



- 36-month PFS rate was 50% (95% CI, 35.8-61.9) in the POD24 subgroup and 59% (95% CI, 39.5-73.5) in patients without POD24
- 36-month OS rate was 83% (95% CI, 69.1-90.5) in the POD24 subgroup and 80% (95% CI, 60.9-90.6) in patients without POD24

NE, not estimated; OS, overall survival; PFS, progression-free survival; POD24, progression of disease within 2 years of frontline systemic therapy.

Mosunetuzumab Monotherapy in 3L+ FL Study design

Pivotal, single-arm, Phase II expansion study in patients with R/R FL and ≥2 prior therapies (NCT02500407)

Key inclusion criteria	Data analysis
 FL Grade 1–3a ECOG PS 0–1 ≥2 prior therapies including an anti-CD20 antibody and an alkylator 	 Study met its primary endpoint: 60% CR rate versus 14% historic control (p<0.0001)^{1,2} Updated efficacy and safety analysis with a median follow-up of 37.4 months
Mosur	netuzumab administration
 IV mosunetuzumab administered in 21-day cycl with step-up dosing in C1 	es D15: 60mg D1: 60mg D1: 30mg D1: 30mg
 Fixed-duration treatment: 8 cycles if CR after C8 17 cycles if PR/SD after C8 	B; D8: 2mg

D1: 1mg

 C_{2}

- Retreatment with mosunetuzumab permitted at relapse for patients who achieved CR
- No mandatory hospitalization



C8/1

C3

Presented by S. Schuster at the 65th ASH Annual Meeting December 9–12, 2023

Durability of responses



30 months after their first response

Presented by S. Schuster at the 65th ASH Annual Meeting December 9–12, 2023

CRS summary

RS by ASTCT criteria ¹	N=90	CRS by cycle and grade
CRS (any grade), n Grade 1 Grade 2 Grade 3 Grade 4	40 (44%) 23 (26%) 15 (17%) 1 (1%) 1 (1%)	Grade 1 Grade 2 Grade 3 Grade 4 50 C1 40 36%
Median time to CRS onset, hours (range) C1D1 C1D15	5 (1–24) 27 (0–391)	tients 30 - 53%
Median CRS duration, days (range)	3 (1–29)	1 0%
Corticosteroids for CRS management, n	10 (11%)*	
Tocilizumab for CRS management, n	7 (8%)*	0
Events resolved	100%	dose 1mg 2mg 60mg 60mg 30

CRS was predominantly low grade and occurred during C1 All CRS events resolved; no new events were reported in this extended follow-up

Presented by S. Schuster at the 65th ASH Annual Meeting | December 9–12, 2023

1. Lee DW, et al. Biol Blood Marrow Transplant 2019;25:625-38.

TRANSCEND FL: phase 2, open-label, multicenter Lisocabtagene maraleucel in R/R FL



- Study endpoints of ORR and CR rate were tested hierarchically with null hypotheses in the following order at 1-sided α = 0.025 significance:
 - Sequence 1: 3L + FL (ORR \leq 60%), 4L + FL (ORR \leq 50%), 3L + FL (CR rate \leq 30%), and 4L + FL (CR rate \leq 20%); sequence 2: 2L FL (ORR \leq 50%) and 2L FL (CR rate \leq 19%)

ClinicalTrials.gov identifier: NCT04245839.

^aPOD24 was defined as progression within 24 months of diagnosis after treatment with an anti-CD20 antibody and an alkylating agent within the first 6 months of initial FL diagnosis. Patients who did not meet criteria of POD24 had to meet at least 1 criterion of the mGELF criteria (symptoms attributable to FL; threatened end-organ function, or cytopenia secondary to lymphoma or bulky disease [single mass > 7 cm, or 3 or more masses > 3 cm]; splenomegaly; or steady progression over at least 6 months). 3L, third line; 4L+, fourth line or later; BOR, best overall response; CY, cyclophosphamide; DOR, duration of response; FLU, fludarabine; HRQQL, health-related quality of life; IRC, independent review committee; mGELF, modified Groupe d'Etude des Lymphomes Folliculaires. 1. Cheson BD, et al. *J Clin Oncol* 2014;32:3059–3068.

Primary endpoint: ORR per IRC by best overall response

2L FL efficacy set (n = 23)



H₀, null hypothesis; SD, stable disease. 1. Morschhauser F, et al. *Hematol Oncol* 2023;41(suppl 2):877–880.

Morschhauser F, et al. ASH 2023 [Presentation #602]

CRS^a **NEs^b** 30% 13% grade 1 grade 1 (n = 7)(n = 3)22% **52**% 17% grade 2 any grade any grade (n = 5)**4**% (n = 4)(n = 12) grade 3 (n = 1)

2L FL (n = 23)

No Grade 3–5 CRS Median time to onset: 6 days Median time to resolution: 3 days No Grade 4–5 NEs Median time to onset: 8.5 days Median time to resolution: 2.5 days



CRS in 2L vs 3L+ FL

- 52% vs 59% with any-grade CRS
- Grade 1–2 CRS only vs 1% grade 3 CRS (all others grade 1–2)
- Median time to onset of 6 days in both cohorts
- Median time to resolution of 3 vs 4 days

NEs in 2L vs 3L+ FL

- 17% vs 15% with any-grade NEs
- No grade 4-5 NEs in either cohort
 - 4% vs 2% with grade 3 NEs
- Median time to onset of 8.5 days in both cohorts
- Median time to resolution of 2.5 vs 4.5 days

13% vs 31% received tocilizumab and/or corticosteroids to manage CRS/NEs

^aGraded according to the Lee 2014 criteria; ^bDefined as investigator-identified neurological AEs related to liso-cel and graded per the NCI CTCAE, version 5.0; NE, neurological event. Morschhauser F, et al. ASH 2023 [Presentation #602]

SELENE (NCT01974440): A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study of BR/RCHOP +/- ibrutinib in R/R FL/MZL



• 80% power, 2-sided significance level of 5%

Primary end point: Progression-free survival (investigator-assessed)

Secondary end points: Overall survival, Complete Response Rate, Overall Response Rate, Duration of Response, Patient-Reported Outcomes (FACT-Lym); Safety

Nastoupil, ICML, LBA 2023

• 1 vs > 1 prior LOT

^aEnrollment period. ^bGiven for 6 cycles. ^cInvestigator discretion.

BR, bendamustine plus rituximab; CIT, chemoimmunotherapy; ECOG PS, Eastern Cooperative Oncology Group performance status; FL, follicular lymphoma; HR, hazard ratio; lbr, ibrutinib; LOT, line of therapy; mos, months; MZL, marginal zone lymphoma; Pbo, placebo; PD, progressive disease; R-CHOP, rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone; R/R, relapsed/refractory.

Despite Favorable Median PFS With Ibrutinib + CIT, the Primary Study End Point Was Not Met



ITT population: PFS at median follow-up of 84 months:

- Ibrutinib + CIT, 40.5 months
- Placebo + CIT, 23.8 months

Phase 2 ROSEWOOD: Zanubrutinib + Obinutuzumab superior to Obinutuzumab alone

 In the randomized phase 2 ROSEWOOD study in R/R FL (NCT03332017), zanubrutinib + obinutuzumab led to an IRC-assessed ORR of 69.0% (CR rate, 39.3%); mPFS at 24 months of 28 months



Median follow-up, 20.2 months.

CR, complete response; FL, follicular lymphoma; HR, hazard ratio; IRC, independent review committee; mPFS, median PFS; NE, not estimable; ORR, overall response rate; PFS, progression-free survival; R/R, relapsed/refractory. ^a Descriptive 2-sided *P* value. Zinzani PL, et al. Presented at: 17th International Conference on Malignant Lymphoma; June 13-17, 2023; Lugano, Switzerland. Abstract 81.

Sehn LH, et al. MAHOGANY: a phase 3 trial of zanubrutinib plus anti-CD20 antibodies vs lenalidomide plus rituximab in patients with relapsed or refractory follicular or marginal zone lymphoma. Presented at:17th International Conference on Malignant Lymphoma; June 13-17, 2023; Lugano, Switzerland. Abstract 994. Correspondence: Laurie H. Sehn, MD, MPH; Isehn@bccancer.bc.ca

MAHOGANY: Phase 3 Study Design: FL Cohort



One cycle is 28 days.

BID, twice daily; CRR, complete response rate; CT, computed tomography; DOR, duration of response; FL, follicular lymphoma; IA, investigator assessment; IRC, independent review committee; ORR, overall response rate; OS, overall survival; PET, positron emission tomography; PFS, progression-free survival; QDL, quality of life; R, randomized; TTR, time to response. ^a After completion of combination treatment, patients will receive zanubrutinib monotherapy until confirmed disease progression, unacceptable toxicity, withdrawal of consent, or study termination, whichever comes first. ^b Patients with creating physician from cycles 3 but -60 mL/min will receive 10 mg QD. If the patient memains free of lenalidomide-related grade 3 or 4 toxicities for ≥2 cycles, the dose may be increased to 15 mg QD on days 1 to 21 of a 28-day cycle at the discretion of the treating physician from cycles 3 to 12. 1. Cheson BD, et al. *J Clin Oncol.* 2014;32(27):3059-3068.

MAHOGANY: Phase 3 Study Design: MZL Cohort



One cycle is 28 days.

BID, twice daily; CRR, complete response rate; CT, computed tomography; DOR, duration of response; IA, investigator assessment; IRC, independent review committee; MZL, marginal zone lymphoma; ORR, overall response rate; OS, overall survival; PET, positron emission tomography; PFS, progression-free survival; QD, quality of life; R, randomized; TTR, time to response. ^a After completion of combination treatment, patients will receive zanubrutinib monotherapy until confirmed disease progression, unacceptable toxicity, withdrawal of consent, or study termination, whichever comes first. ^b Patients with creatinine clearance of 230 but <60 mL/min will receive 10 mg QD. If the patient remains free of lenalidomide-related grade 3 or 4 toxicities for 2 cycles, the dose may be increased to 15 mg QD on days 1 to 21 of a 28-day cycle at the discretion of the treating physician from cycles 3 to 12. 1. Cheson BD, et al. *J Clin Oncol.* 2014;32(27):3059-3068.

Sehn LH, et al. MAHOGANY: a phase 3 trial of zanubrutinib plus anti-CD20 antibodies vs lenalidomide plus rituximab in patients with relapsed or refractory follicular or marginal zone lymphoma. Presented at:17th International Conference on Malignant Lymphoma; June 13-17, 2023; Lugano, Switzerland. Abstract 994. Correspondence: Laurie H. Sehn, MD, MPH; Isehn@bccancer.bc.ca

Conclusions

- 1. Bispecifics are exciting, approved for 3rd line, how does this impact sequencing now and in the future?
 - I would consider most for a bispecific in 3rd line
 - I eagerly await the randomized trials in 2nd line + to know if a combo is preferred over monotherapy

2. When do you use CAR T-cell therapy?

- For concerns for transformed disease
- Young fit patients with high-risk features
- Will liso-cel change this given the favorable safety profile?

3. Is there still a role for BTK inhibitors?

- Would not use ibrutinib in R/R FL or MZL
- Single agent approval of zanubrutinib in MZL, anticipate an approval in combination with obin in R/R FL

4. When will we have a new frontline approach?

- Bispecifics are the most exciting new therapy and will likely move into frontline
- Do you need a combination approach?