



Shifting Landscape of treatment in indolent B-cell Lymphoma Marginal zone lymphoma

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Scope of this talk

01.

- Introduction



02.

- Epidemiology



03.

- Classification



04.

- Laboratory investigation



05.

- Frontline treatment



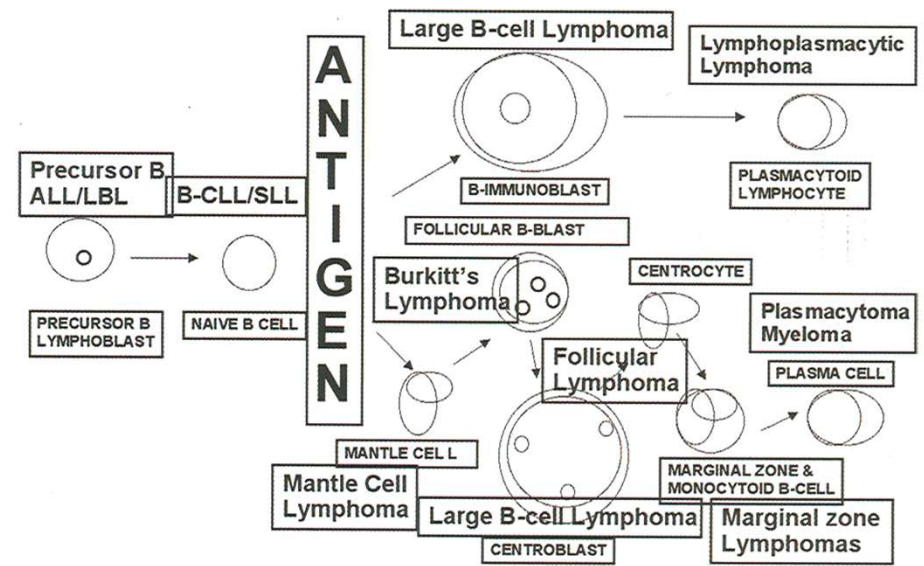
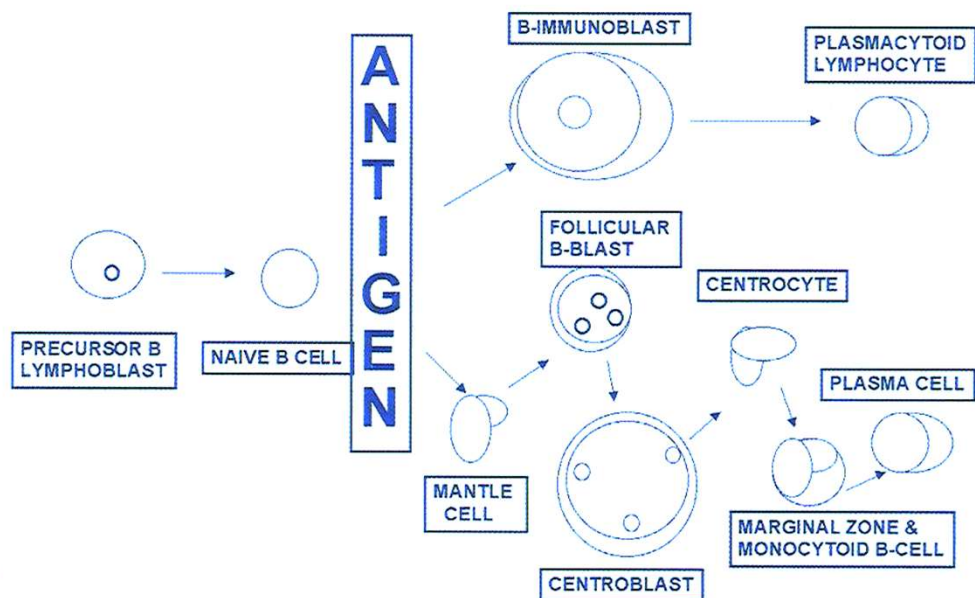
06.

- Novel therapy



PMKhematology

B cell lymphoma is abnormal at a stage of development of B-lymphocyte



5th WHO Classification of Lymphoid malignancies

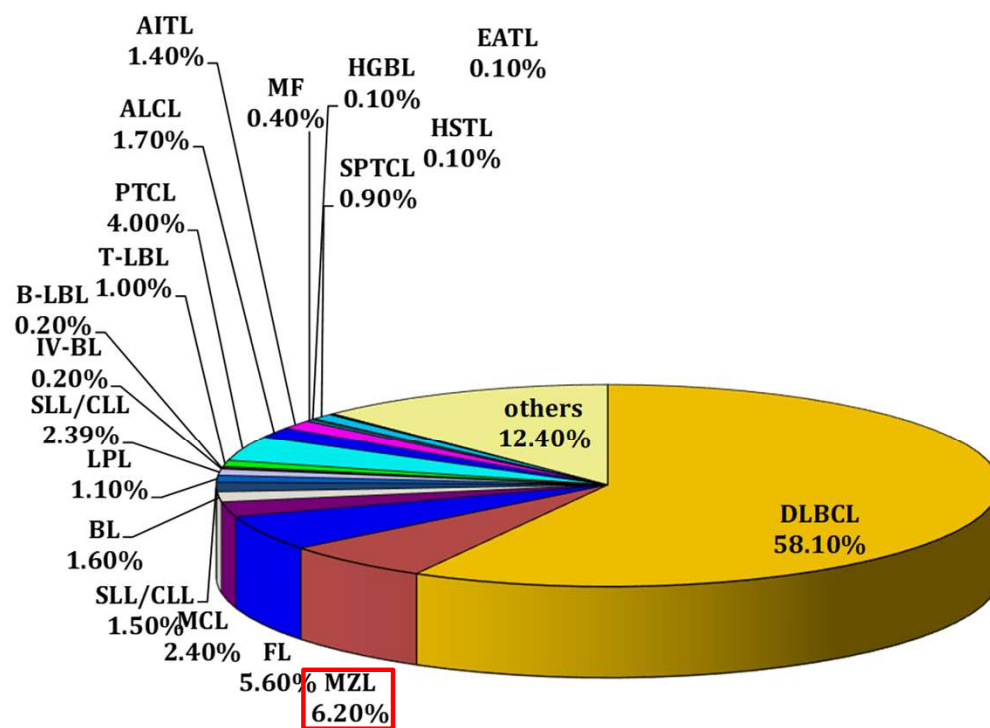
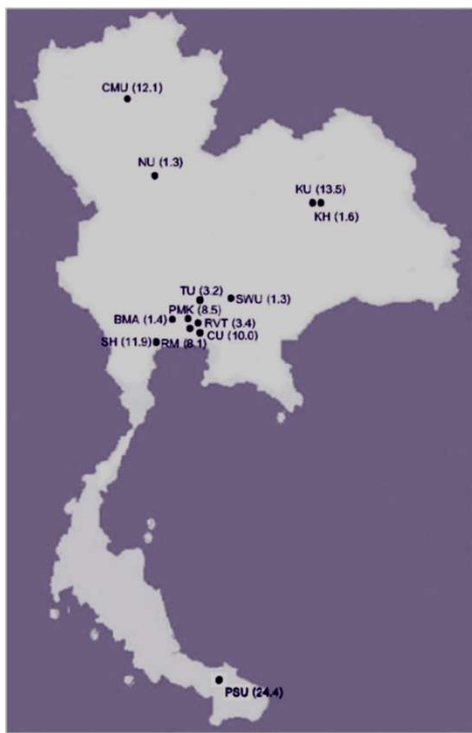
Mature B-cell neoplasms	
<i>Pre-neoplastic and neoplastic small lymphocytic proliferations</i>	
Monoclonal B-cell lymphocytosis	(Same)
Chronic lymphocytic leukaemia/small lymphocytic lymphoma	(Same)
(Entity deleted)	B-cell prolymphocytic leukaemia
<i>Splenic B-cell lymphomas and leukaemias</i>	
Hairy cell leukaemia	(Same)
Splenic marginal zone lymphoma	(Same)
Splenic diffuse red pulp small B-cell lymphoma	(Same)
Splenic B-cell lymphoma/leukaemia with prominent nucleoli	<i>Not previously included</i> (encompassing hairy cell leukaemia variant and some cases of B-cell prolymphocytic leukaemia)
<i>Lymphoplasmacytic lymphoma</i>	
Lymphoplasmacytic lymphoma	(Same)
<i>Marginal zone lymphoma</i>	
Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue	(Same)
Primary cutaneous marginal zone lymphoma	<i>Not previously included</i> (originally included under "extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue")
Nodal marginal zone lymphoma	(Same)
Paediatric marginal zone lymphoma	(Same)
<i>Follicular lymphoma</i>	
In situ follicular B-cell neoplasm	In situ follicular neoplasia
Follicular lymphoma	(Same)
Paediatric-type follicular lymphoma	(Same)
Duodenal-type follicular lymphoma	(Same)

Allaggio R, et al. Leukemia 2022;36:1720–48;

Non-Hodgkin lymphoma in South East Asia: An analysis of the histopathology, clinical features, and survival from Thailand

Tanin Intragumtornchai¹ | Udomsak Bunworasate¹ | Kitsada Wudhikarn¹ | Arnuparp Lekhakula² | Jakrawadi Julamanee² | Kanchana Chansung³ | Chittima Sirijerachai³ | Lalita Norasetthada⁴ | Weerasak Nawarawong⁴ | Archrob Khuapinant⁵ | Noppadol Siritanaratnakul⁵ | Tontanai Numbenjapon⁶ | Kannadit Prayongratana⁶ | Suporn Chuncharunee⁷ | Pimjai Niparuck⁷ | Tawatchai Suwanban⁸ | Nongluk Kanitsap⁹ | Somchai Wongkhanatee¹⁰ | Rutchanid Pornvipavee¹¹ | Peerapon Wong¹² | Nisa Makruasi¹³ | Pongsak Wannakrairot¹⁴ | Thamathorn Assanasen¹⁴ | Sanya Sukpanichnant¹⁵ | Paisarn Boonsakan¹⁶ | Wasana Kanoksil¹⁶ | Charin Ya-in¹⁷ | Kanita Kayasut¹⁸ | Winyu Mitranun¹⁸ | Naree Warnnissorn¹⁹

4056 pts from 13 major centers were analyzed (WHO 2008)

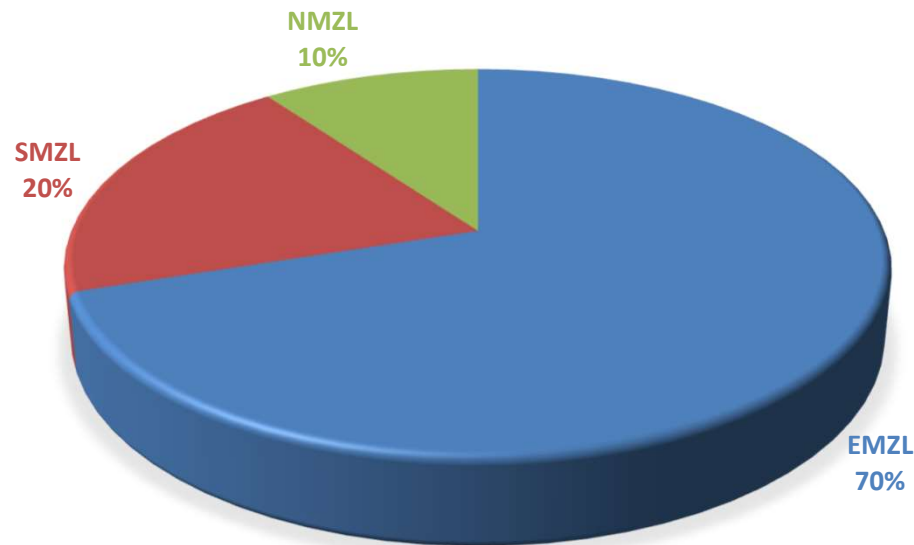


Intragumtornchai T, et al, Hematol Oncol. 2018;36:28–36.

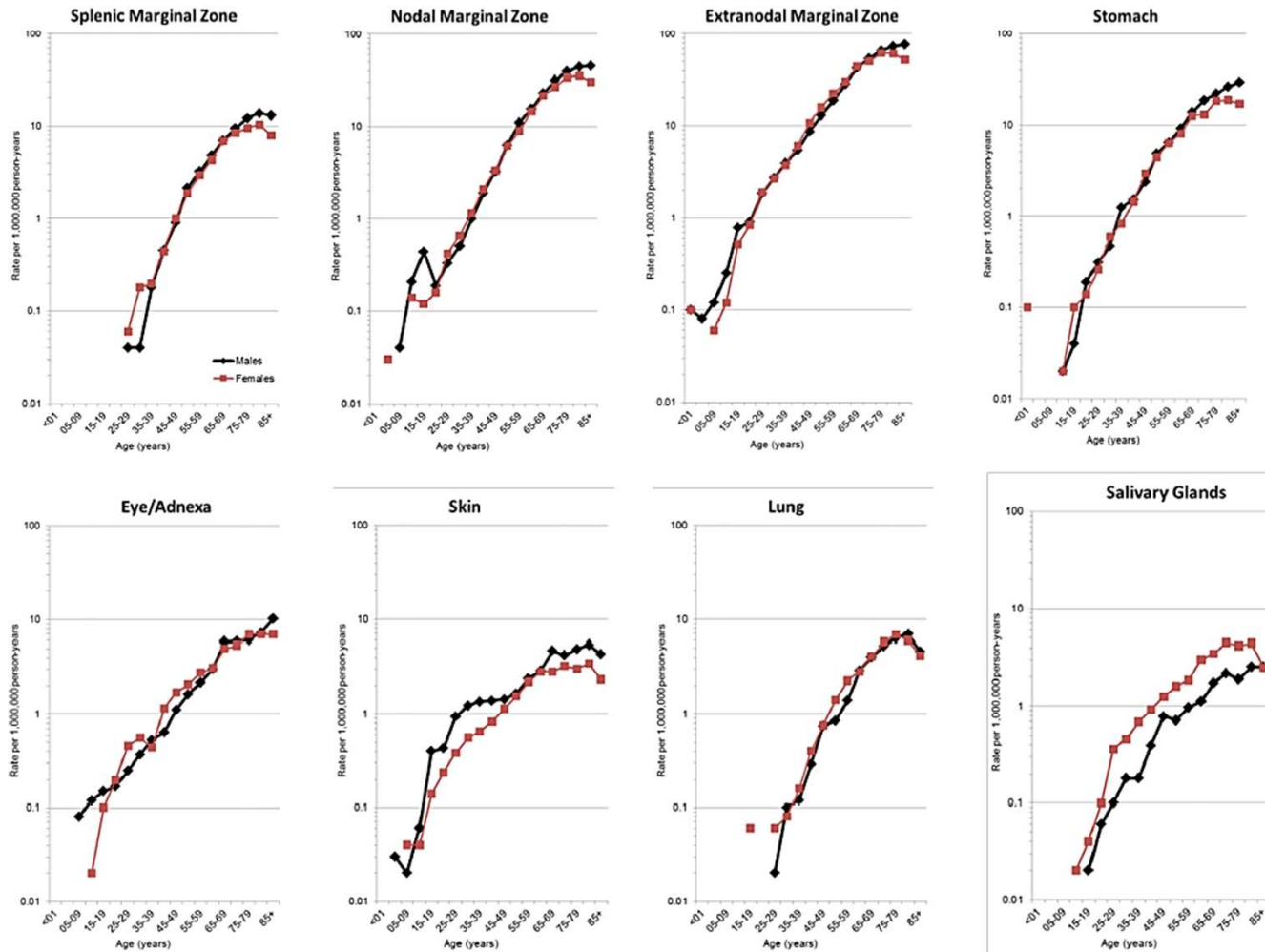


Marginal Zone Lymphoma: Disease entities

- 3 specific entities of marginal zone lymphoma
 - Extranodal marginal zone lymphoma (EMZL) or Mucosa-associated lymphatic tissue (MALT) lymphoma
 - Splenic MZL (SMZL)
 - Nodal MZL (NMZL)



Incidence increased with age

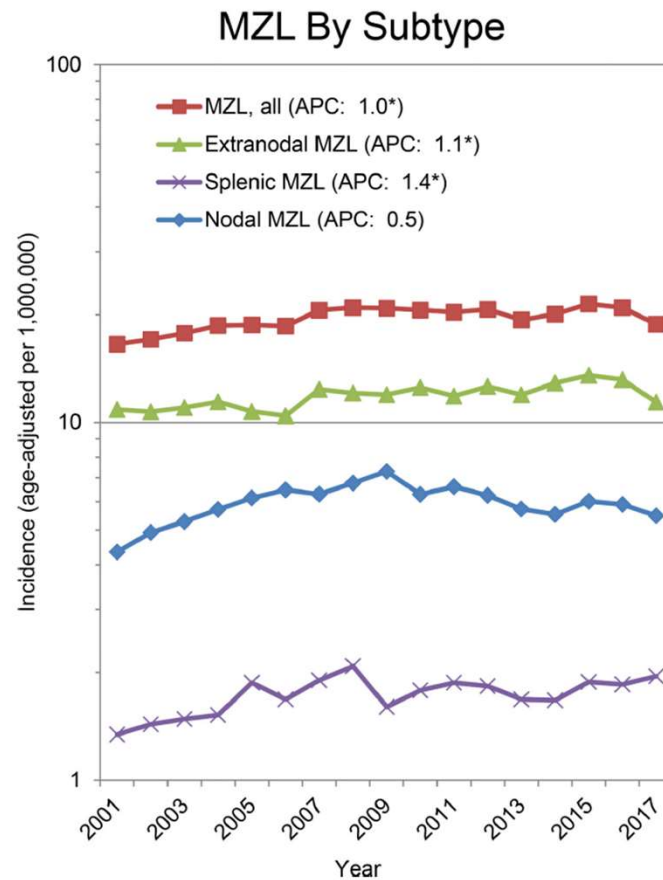


Cerhan JR, et al. Ann Lymphoma. 2021;5:1.



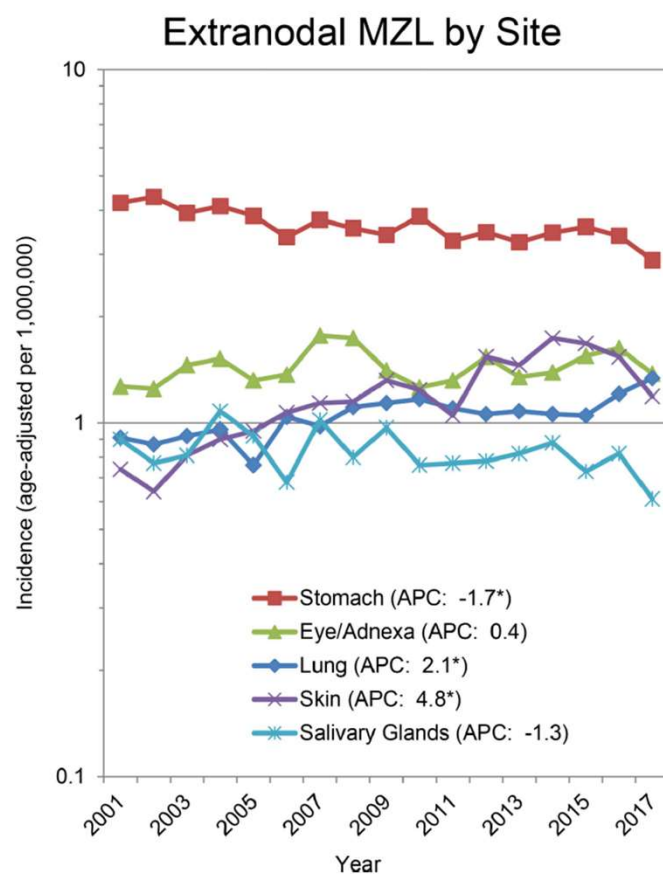
PMKhematology

Incidence of each subtype of MZL



Cerhan JR, et al. Ann Lymphoma. 2021;5:1.

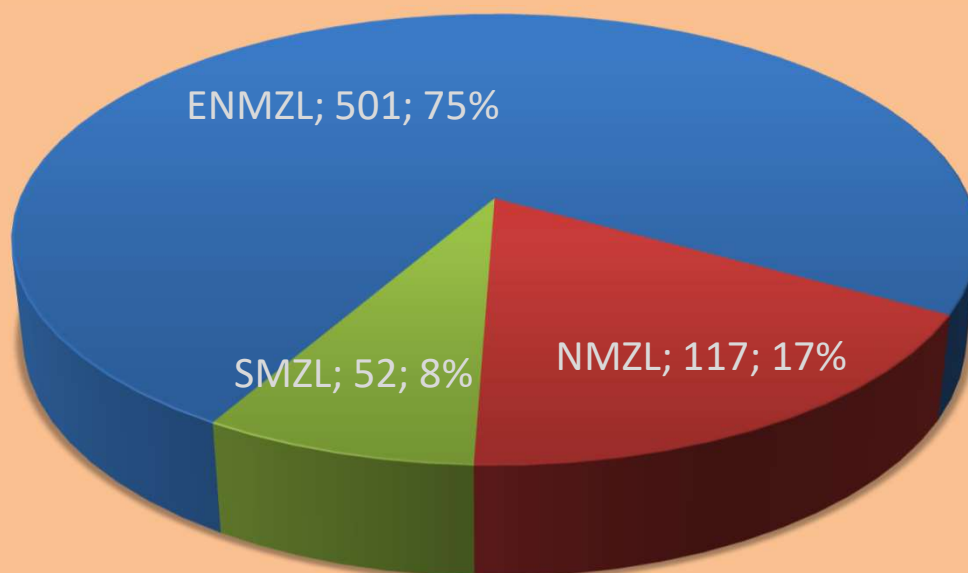
Incidence of MALT lymphoma by organ involvement



Cerhan JR, et al. Ann Lymphoma. 2021;5:1.

TLSG MZL data

Total Non-Hodgkin Lymphoma 8,404



Entity	Total
NHL	8,404
MZL	670
% NHL	7.97
EMZL	501
% MZL	74.78

Baseline Characteristics

The median age at diagnosis was 59 years (range: 20-95).

Slightly male predominant (56.9%).

Elevated lactate dehydrogenase (LDH) in 25%.

Presence of B-symptoms 22.5%.

Ann-Arbor stage III-IV 35.4%.

ECOG performance status grade 3-4 3.5%.

ENMZL- primary organ

ENMZL	Old Registry	New Registry	Total	%
1. Ocular Adnexa	129	103	232	46.30%
2. Gastric	25	41	66	13.17%
3. Head & Neck	23	35	58	11.57%
4. Lung	8	19	27	5.39%
5. Small intestine	6	12	18	3.59%
6. Salivary	17	4	21	4.19%
7. Thyroid	11	6	17	3.39%
8. Large intestine	4	5	9	1.80%
9. Breast	7	1	8	1.59%
10. Skin	0	6	6	1.20%

MZL: etiology

- Long-standing antigenic stimulation induces lymphoid infiltrates in extranodal sites that are normally devoid of lymphoid tissue.

Organ	Etiology	Risk
Gastrointestinal - Stomach - Intestine (IPSID)	<i>Helicobacter pylori</i> , <i>H. heilmanii</i> <i>Campylobacter jejuni</i>	90% association
Head neck - Orbital apparatus - Salivary gland	<i>Chlamydia</i> spp Sjogren disease	0-80% 44 folds
Lung	<i>Achromobacter xylosoxidans</i>	
Splenic	Viral hepatitis C	
Skin	<i>Borrelia burgdorferi</i>	
Thyroid	Hashimoto thyroiditis	70 folds

Clinical Manifestation of splenic and nodal MZL

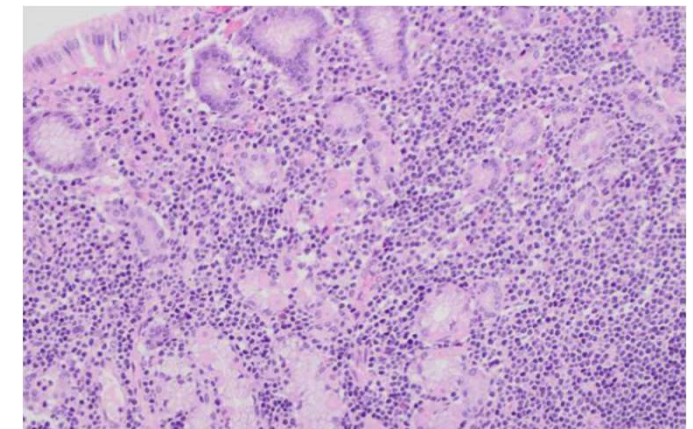
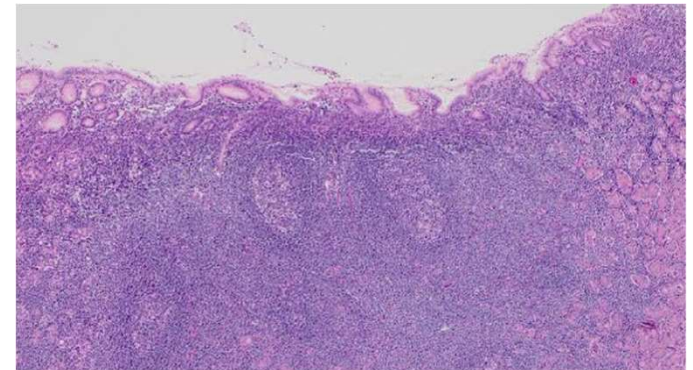
Type	Manifestations
Splenic MZL	Usually disseminated disorders. Patients may be asymptomatic, with the disease discovered on an incidental finding of lymphocytosis, splenomegaly, Symptoms related to cytopenia, massive splenomegaly (left upper abdominal discomfort and early satiety)
nodal MZL	Usually disseminated disorders. Patients may be asymptomatic, with the disease discovered on an incidental finding of lymphocytosis, or painless peripheral adenopathy. Symptoms related to cytopenia, or bulky lymph node enlargement may be present

Clinical Manifestation: MALT lymphoma

Organ	Sign and symptoms
Ocular adnexa MZLs.	slowly growing masses or eye redness
gastric MZLs	epigastric pain, dyspeptic symptoms, weight loss, gastrointestinal bleeding
IPSID	diarrhea, abdominal pain, and malabsorption
salivary and thyroid gland MZL	present with slowly growing and painless lumps.
Cutaneous MZLs	reddish or violaceous skin papules, plaques, or nodules localized preferentially on the trunk or arms.
Lung MZLs	generally asymptomatic and incidentally discovered as lung nodules on imaging studies.

Extranodal marginal zone lymphoma

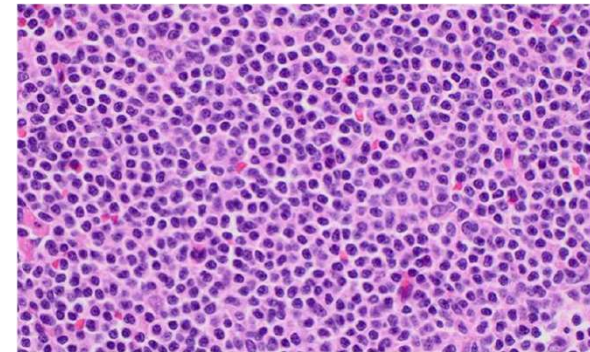
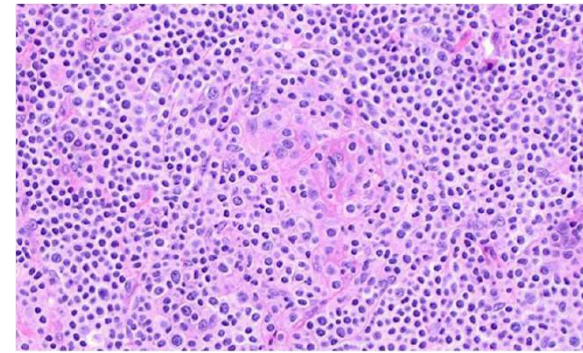
- The histologic features of MALT lymphoma are generally similar across anatomic sites, although there are some notable site-specific differences.
- The neoplastic B-cells are small with mature chromatin, round to slightly irregular nuclear contours, and variable amounts of cytoplasm.
- Overt monocytoid features are typical at some locations, such as the parotid gland, and may be present to a varying extent at other locations.
- The tumor cells proliferate around the periphery of GCs, following a marginal distribution external to preserved mantle zones.
- Lymphoepithelial lesions are variable across sites, being present in almost all gastric or parotid gland



Laurent C, et al. Virchows Archiv 2023; 482: 149–62.
Zucca E, et al. Ann Oncol. 2020;31(1):17-29.

Nodal marginal zone lymphoma

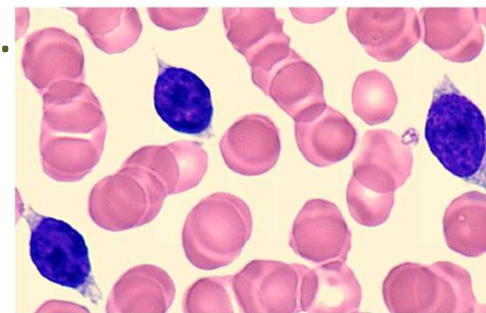
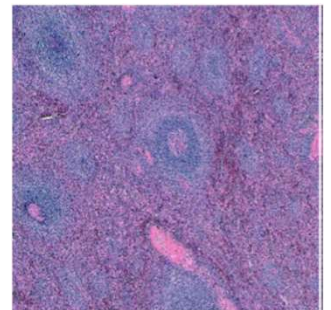
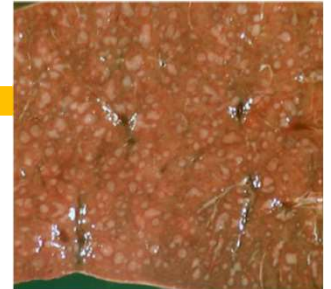
- NMZL shares morphological and immunophenotypic similarities with other MZLs, and its differential diagnosis from other indolent lymphomas
- Monocytoid B-cell morphology is prominent.
- A small monoclonal component: usually IgM, may be detected and differential diagnosis from lymphoplasmacytic lymphoma (LPL) may be necessary.
- MYD88 molecular aberration may be used for diagnostic purposes, with the knowledge that MZLs rarely harbour MYD88 mutations.
- In all cases, but particularly for NMZL, the histopathological diagnosis must be established with full knowledge of the clinical and radiological presentation.



Laurent C, et al. Virchows Archiv 2023; 482: 149–62.
Zucca E, et al. Ann Oncol. 2020;31(1):17-29.

Splenic marginal zone lymphoma

- SMZL is a small B-cell neoplasm that surrounds and replaces the normal white pulp nodules of the spleen.
- Represents <2% of all lymphoid neoplasms
- Median age of 69 years at first diagnosis
- Male: Female 1:1
- Patients present with splenomegaly and involvement of the bone marrow and usually peripheral blood (villous lymphocyte). Anemia and thrombocytopenia may be present.
- Splenic hilar nodes may be involved, more distant nodal disease is rare and should consider an alternate diagnosis. (i.e. nodal MZL)



Laurent C, et al. Virchows Archiv 2023; 482: 149–62.
Zucca E, et al. Ann Oncol. 2020;31(1):17-29.

Genetic aberration in MALT lymphoma

Lesion	Gene	Frequency	Preferential sites
t(11;18)(q21;q21)	BIRC3-MALT1	15-40%	Stomach, lung
t(14;18)(q32;q21)	IGVH-MALT1	20%	Lung, salivary gland, skin, ocular adnexa
t(1;14)(p22;q32)	IGVH-BCL10	<5%	Stomach, lung
t(3;14)(p13;q32)	IGHV-FOXP1	<5%	Unclear
3/3q		20%-40%	No preference
18/18q		20%-40%	No preference
6q23	TNFAIP3	15%-30%	No preference

Staging system for MALT lymphoma

STAGING OF GASTRIC MALT LYMPHOMA: COMPARISON OF DIFFERENT SYSTEMS

Lugano TNM

Locoregional treatment

Systemic treatment

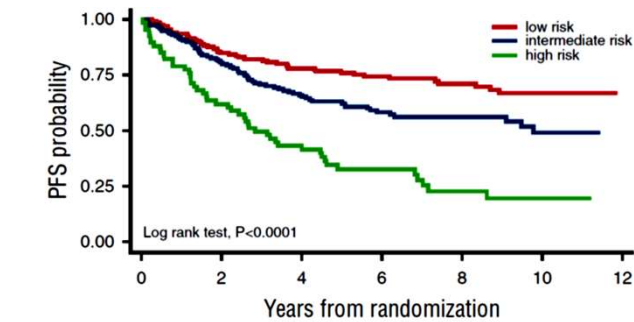
Lugano Staging System for Gastrointestinal Lymphomas		Lugano Modification of Ann Arbor Staging System	TNM Staging System Adapted for Gastric Lymphoma	Tumor Extension
Stage I	Confined to GI tract ^a			
	I ₁ = mucosa, submucosa	I _E	T1 N0 M0	Mucosa, submucosa
	I ₂ = muscularis propria, serosa	I _E	T2 N0 M0	Muscularis propria
		I _E	T3 N0 M0	Serosa
Stage II	Extending into abdomen			
	II ₁ = local nodal involvement	II _E	T1-3 N1 M0	Perigastric lymph nodes
	II ₂ = distant nodal involvement	II _E	T1-3 N2 M0	More distant regional lymph nodes
Stage IIE	Penetration of serosa to involve adjacent organs or tissues	II _E	T4 N0 M0	Invasion of adjacent structures
Stage IV ^b	Disseminated extranodal involvement or concomitant supradiaphragmatic nodal involvement		T1-4 N3 M0	Lymph nodes on both sides of the diaphragm/ distant metastases (eg, bone marrow or additional extranodal sites)
		IV	T1-4 N0-3 M1	

- Triple therapy for 14 days must be given to all stage of gastric MALT lymphoma
- No definitive evidence between RT and systemic treatment in localized gastric MALT lymphoma
- Patients with t(11;18) will most probably be unresponsive to alkylating agents as a sole treatment

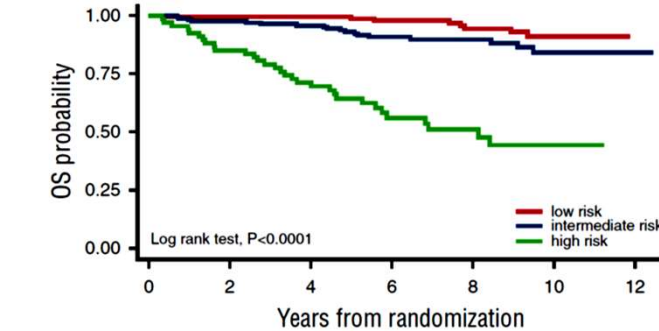
MALT-IPI score

Parameter	Risk
Age	>70 years
LDH	>UNL
Ann-Arbor stage	III-IV

Risk group	No. of risk
Low	0
Intermediate	1
High	2-3



Number at risk							
low risk	167	126	112	84	57	21	0
intermediate risk	165	122	95	62	39	17	0
high risk	68	40	27	15	7	1	0



Number at risk							
low risk	167	159	154	113	79	33	0
intermediate risk	165	160	152	99	65	32	1
high risk	68	57	45	25	15	7	0

Thieblemont C, et al. Blood 2017;130(12):1409-17.

MALT prognostic model

Parameter	Risk
Age	≥ 65 years
ECOG	≥ 2
Extranodal	≥ 2 organs

Risk group	Number of risk
Low	0
High	≥ 1

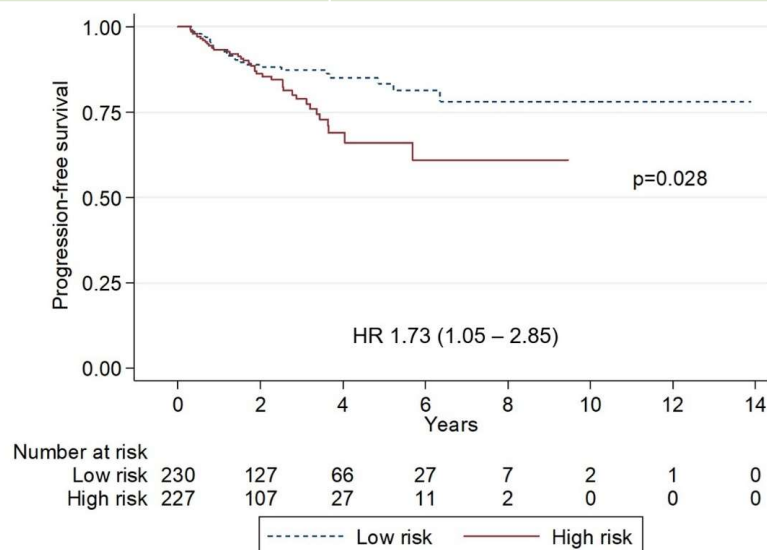


Figure 1B Progression-free survival according to the risk group

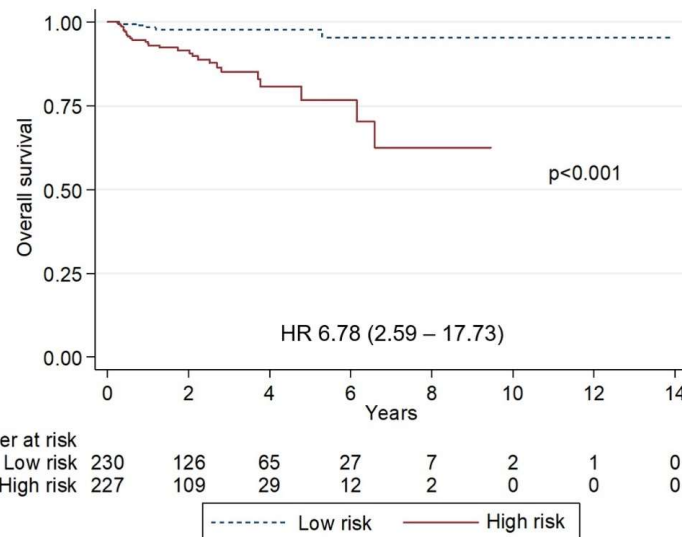


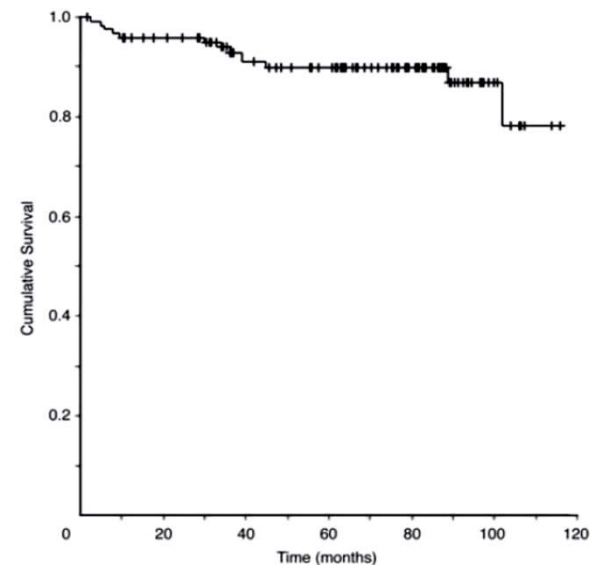
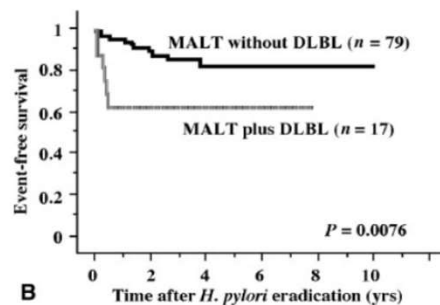
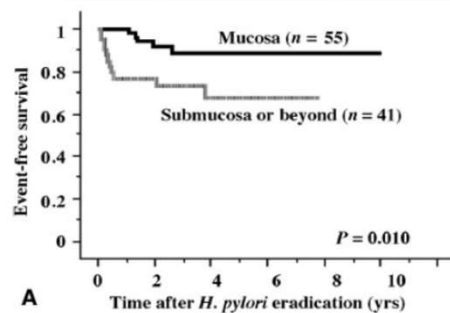
Figure 1C Overall survival according to risk group

Prayongratana K, et al. Blood (2022) 140 (Supplement 1): 6536–6537.

Treatment of *H.pylori*+ Gastric MALT lymphoma

- Localized gastric MALT lymphoma, *H. pylori* Rx resulting in tumor regression in 60–90%.
- H. pylori* eradication provides durable remission.

Ref	CR	F/U	OS	Relapse
1.	80%	5 yr	90%	3%
2.	65%	3 yr	96%	6.5%
3.	LG 80% HG 64%	5 yr	94%	13%



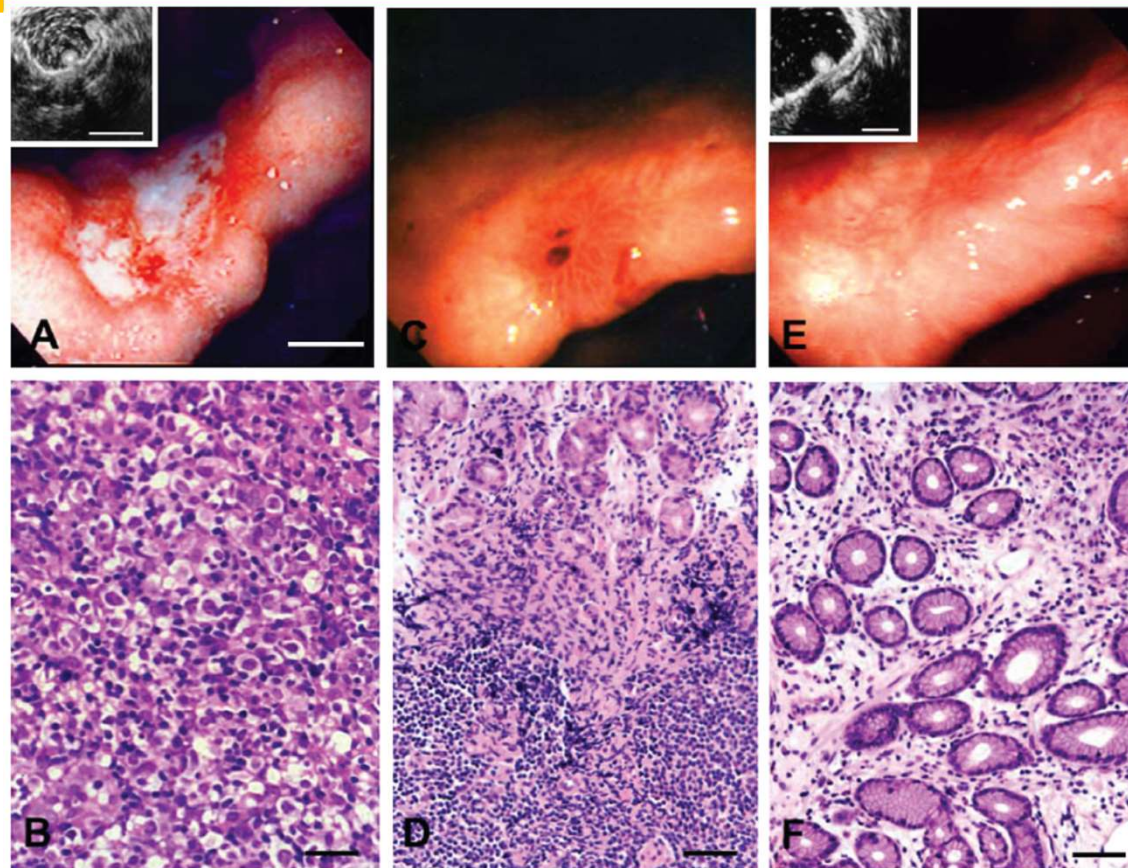
Wündisch T, et al. JCO 2005; 23(31): 8018-24.

Nakamura S, et al. Cancer. 2005;104(3):532-40.

Chen LT, et al. J Natl Cancer Inst. 2005;97(18):1345-53.

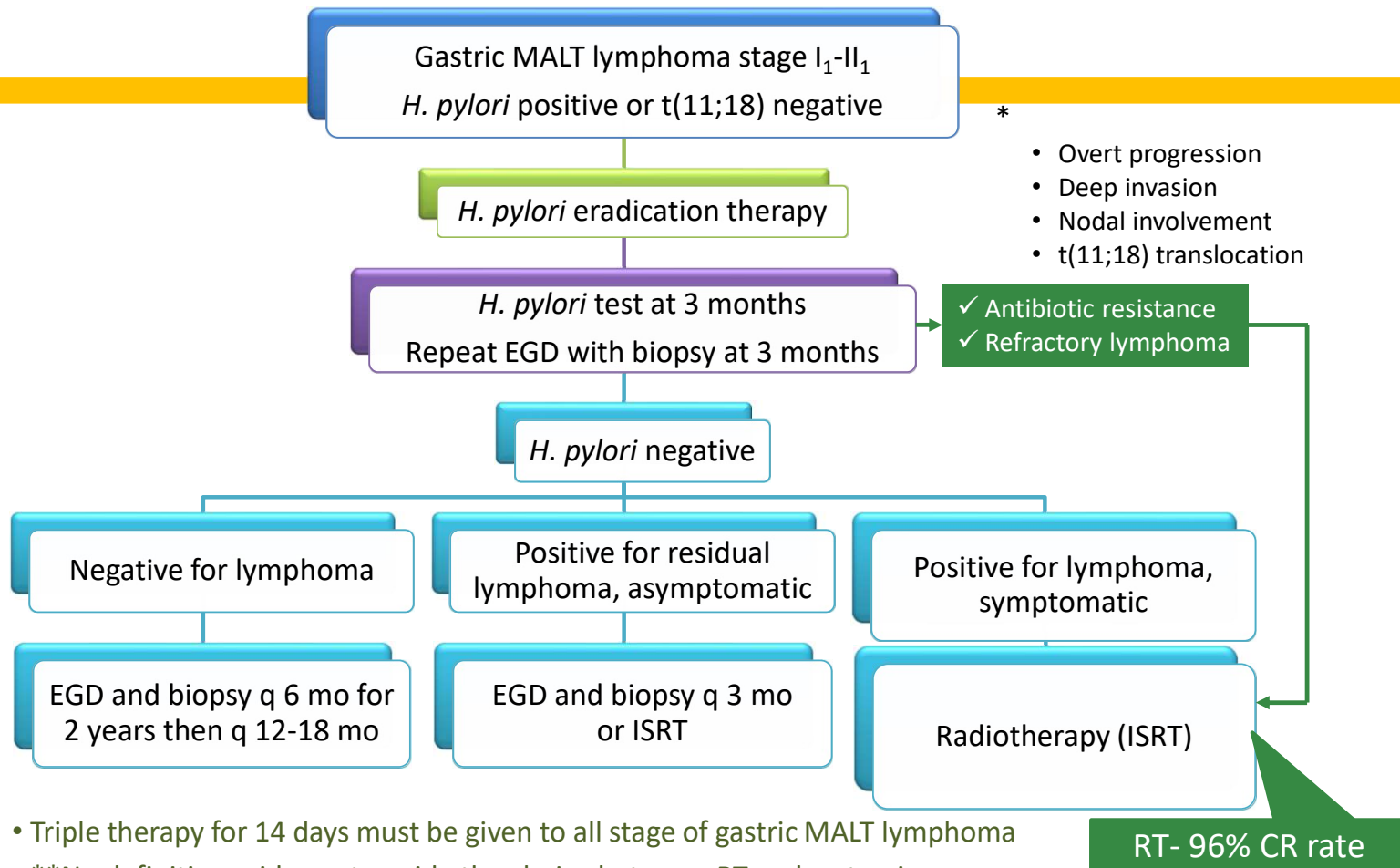


Dramatic response to *H. pylori* treatment



Chen LT, et al. J Natl Cancer Inst. 2005;97(18):1345-53.

Treatment of limited stage Gastric MALT lymphoma



- Triple therapy for 14 days must be given to all stage of gastric MALT lymphoma
- **No definitive evidence to guide the choice between RT and systemic treatment in localized gastric MALT lymphoma

Modified from NCCN guidelines V. 2.2025

Treatment of Advanced stage Gastric MALT lymphoma

- Triple therapy for 14 days must be given to all stage of gastric MALT lymphoma
- Patients with **t(11;18)** will probably be **unresponsive to triple therapy**

*Other treatment indication

- Overt progression
- Deep invasion
- Nodal involvement
- t(11;18) translocation

Gastric MALT lymphoma stage IV

H. pylori eradication therapy (If *H. pylori* positive)

Asymptomatic lymphoma

Symptomatic lymphoma or with other indications*

Watchful waiting with EGD and biopsy and abd U/S q 6 mo (additional imaging and BMBx if clinically indicated)

CMT ± Rituximab
Consider enroll to clinical trials

- Symptoms
- Gastrointestinal (GI) bleeding
- Threatened end-organ function
- Clinically significant bulky disease
- Steady or rapid progression



MALT lymphoma treated with antigen eradication (if they are not in need of urgent treatment IV-A)

MALT location	Association	Treatment	Trials	N	ORR
Gastric MALT	<i>Helicobacter pylori</i>	triple therapy: PPI + clarithromycin + either amoxicillin or metronidazole for 10–14 days	>30 studies either retrospective or prospective	>1400	75%
Ocular apparatus MALT	<i>Chlamydia psittaci</i>	Doxycycline (100mg) 1x2 PO PC (21 days)	2 prospective 4 retrospective, 1 case report	120	48%
Cutaneous MALT	<i>Borrelia burgdorferi</i>	Ceftriaxone 2 gm IV OD (14 days)	Case reports	5	40%
SMZL	Hepatitis C virus	IFN + ribavirin	7 retrospective series and several case reports	110	75%

Zucca E, et al. Ann Oncol. 2020;31(1):17-29.

Treatment for non-gastric MALT lymphoma

Limited stage (IE, IIE)

ISRT, IFRT

Resectable sites or RT not preferred:

- Skin
- Lung
- Breast (lumpectomy)
- Thyroid, salivary gland
- Colon/small bowel.

Rituximab in selected cases.

Advance stage (IV)

- Asymptomatic → watch and wait
- Symptomatic → Chemoimmunotherapy



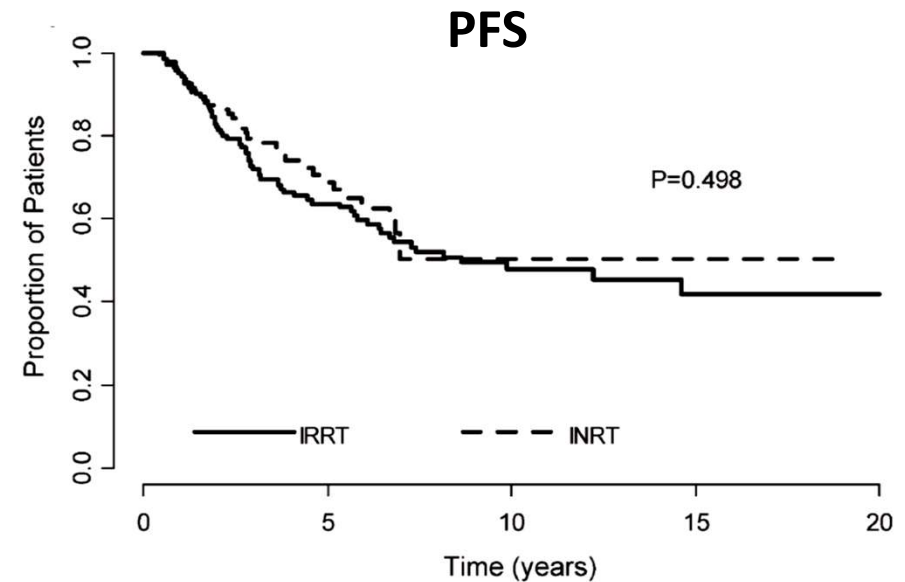
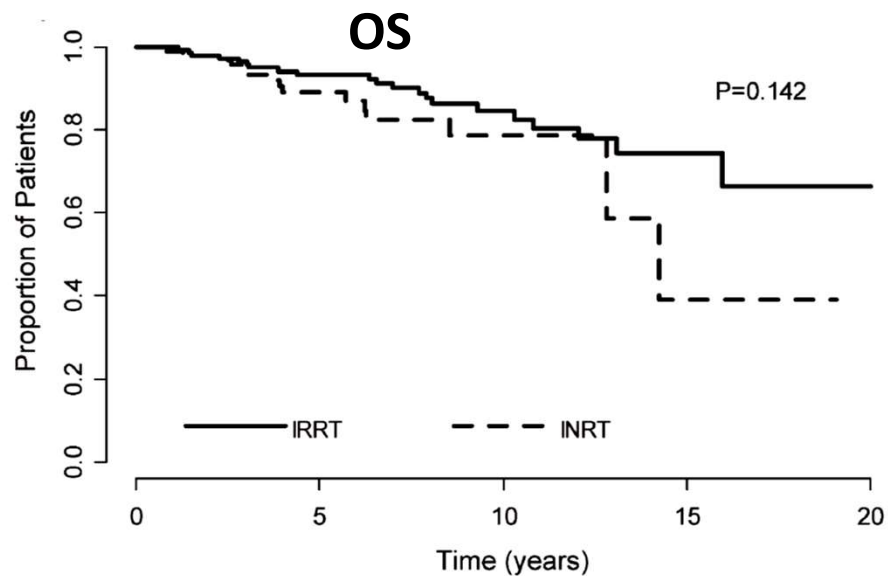
Limited stage: IFRT (IRRT) vs ISRT (INRT)



- Limited stage, grade 1 through 3A treated with curative-intent RT alone.
- IRRT encompassed the involved lymph node group plus 1 adjacent uninvolved lymph node group(s).
- INRT covered the involved lymph node(s) with margins ≤ 5 cm

Results

- 237 patients IRRT=142 patients (60%) and INRT=95 patients (40%).
- The most common pattern of first failure was a distant recurrence only, which developed in IRRT 38%, INRT 32% (median follow-up of 7.5 years)



Campbell BA, et al. Cancer.2010;116:3797–806.

Treatment for nodal MZL

Limited stage (I, II non bulky)

ISRT, IFRT

Advance stage (IV)

- Asymptomatic → watch and wait
- Symptomatic → Chemoimmunotherapy

Indication to initiate treatment

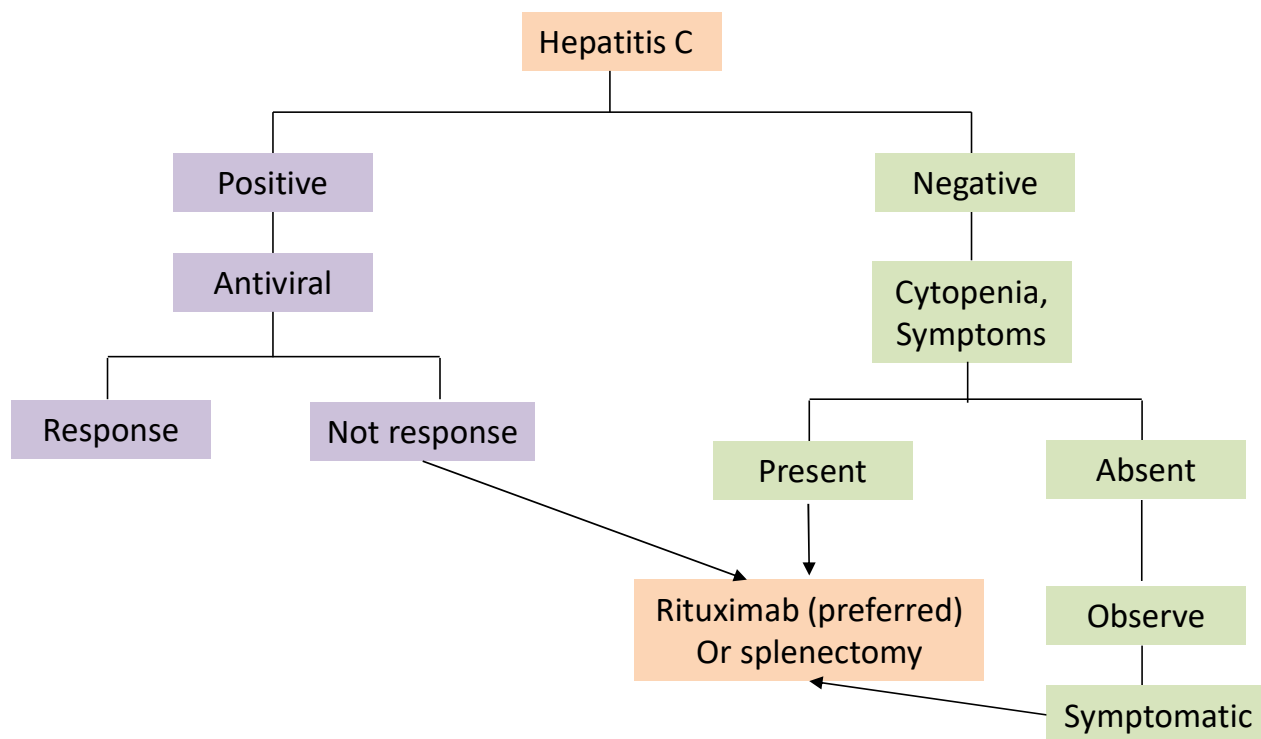
GELF criteria	BNLI criteria	
Size > 7 cm	Rapid generalized disease progression in 3 mo	
3 nodes in 3 distinct areas > 3 cm each	Life threatening organ involvement	
Symptomatic splenomegaly	Renal or macroscopic liver infiltration	
Organ compression	Bone lesions	
Ascites or pleural effusion	Symptoms	
Systemic symptoms	Significant Cytopenia from BM involvement	• Hb < 10 g/dL or
ECOG > 1		• WBC < 3,000/ μ L or
$\uparrow$ LDH or B ₂ microglobulin		• Platelet < 100,000/ μ L

Brice P, et al. JCO 1997;15:1110-7.

Ardeshtna KM, et al. Lancet 2003;362(9383):516-22.



Splenic marginal zone lymphoma

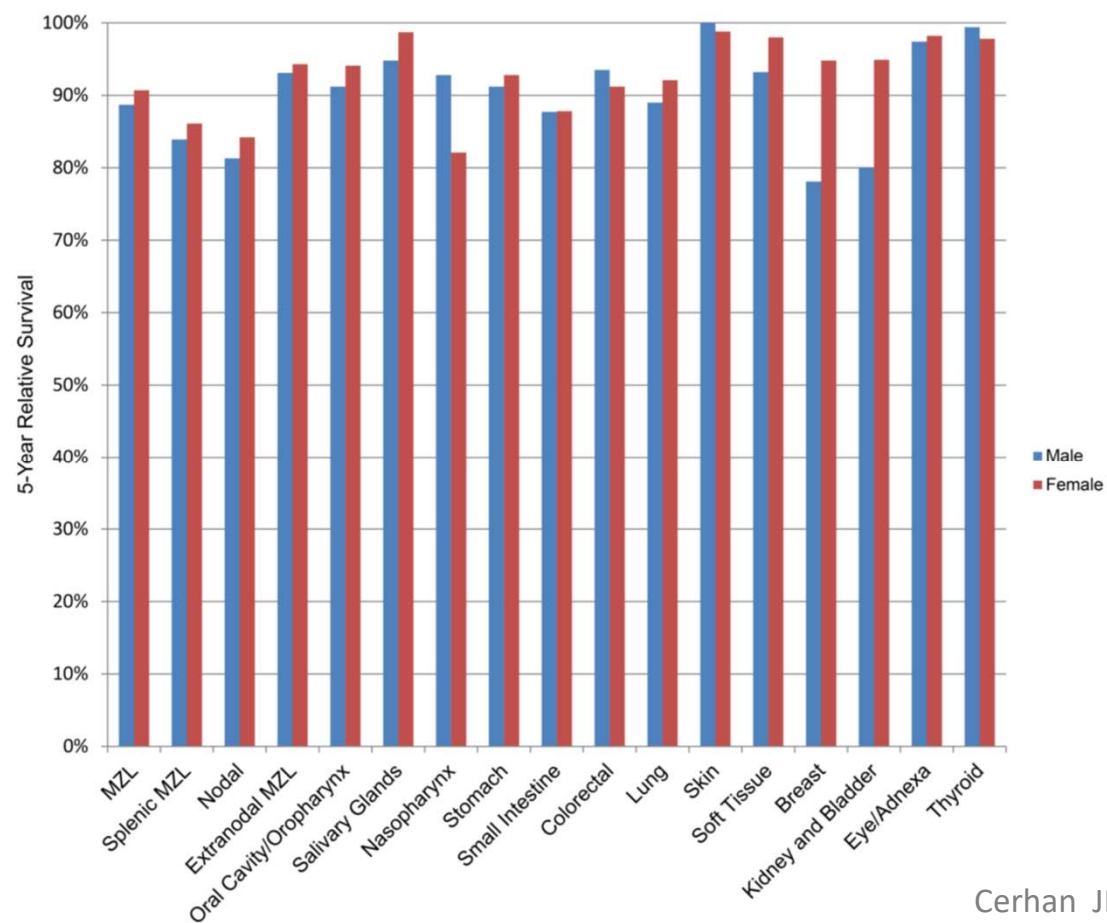


Modified from NCCN guidelines V. 2.2025 & Thai guideline 2022

Treatment for advanced stage MZL with indication to treat

	n	ORR (%)	CR (%)	PFS (%)	p-value	OS (%)	p-value
ENMZL/NMZL (67/33%) CISL study. Oh SY, et al. Cancer Commun 2019;39:58.							
- R-CVP → R maintenance	47	93	44	3 yr 81	-	3 yr 90	-
MALT: IELSG-19. Zucca E, et al. J Clin Oncol. 2013;31(5):565-72.							
- C	151	85.5	63.4	5 yr 51	0.0119	5 yr 90	0.62
- RC	152	94.7	78.8	68		90	
- R	151	78.3	55.8	50		90	
NMZL/ENMZL: MDACC. Becnel MR, et al. Br J Haematol. 2019;185(5):874-82.							
- R ² 6-12 cycles	30	93	70	5 yr 49	-	5 yr 96	-
SMZL: Kalpadakis C, et al. Blood 2018;132:666-70.							
- R monotherapy → R maintenance	76	100	70	5 yr 79	0.0006	5 yr 95	0.79
- R monotherapy → observe	22	100	73	52		91	
SMZL: BRISMA/IELSG36. Iannitto E, et al. Br J Haematol. 2018;183(5):755-65.							
- BR	73	91	78	3y 90%	-	96%	-
MZL: Morigi A, et al. Hematol Oncol. 2020;38(4):487-92.							
- BR	65	89	59	6y 72	-	NR	-

MZL survival



Cerhan JR, et al. Ann Lymphoma. 2021;5:1.

MALT lymphoma survival

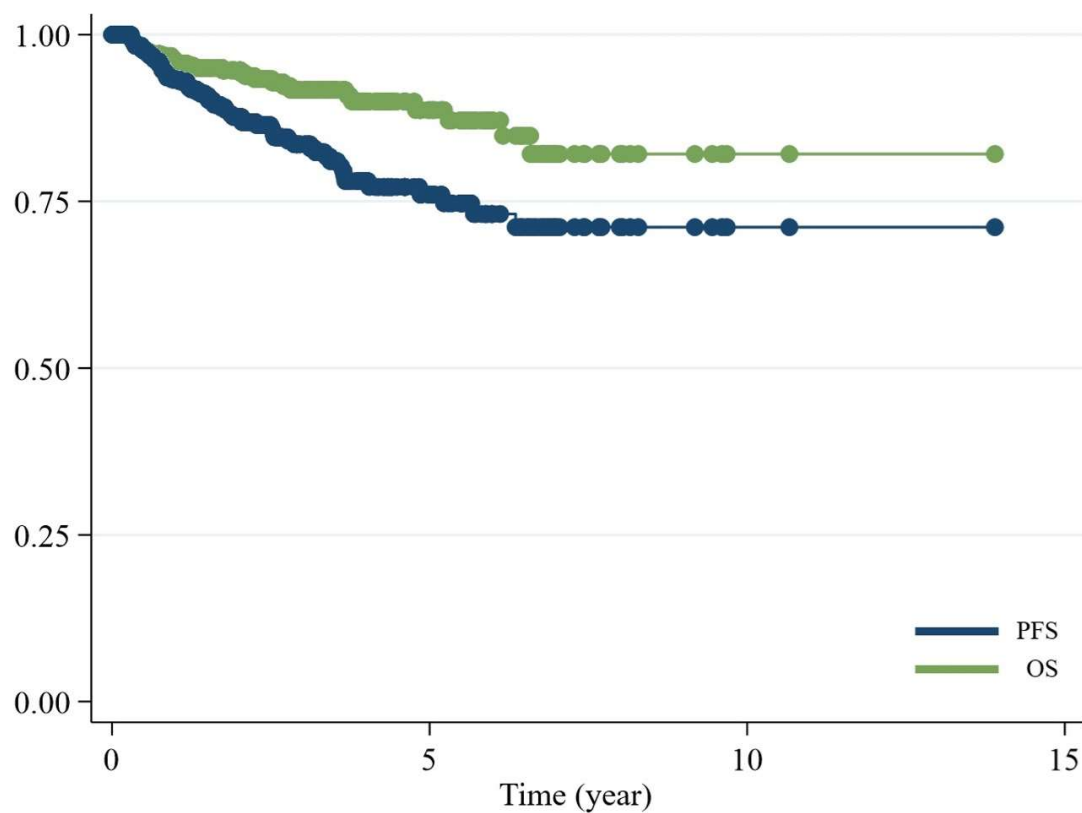


Figure 1A Overall survival (OS) and progression-free survival (PFS) of the whole group

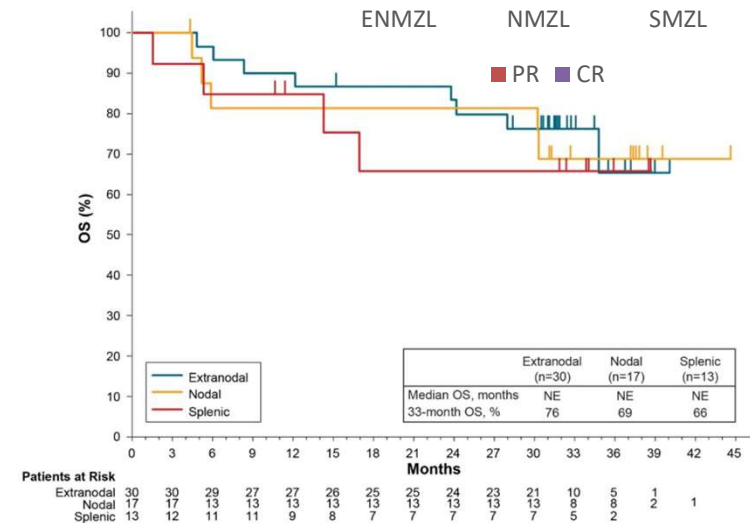
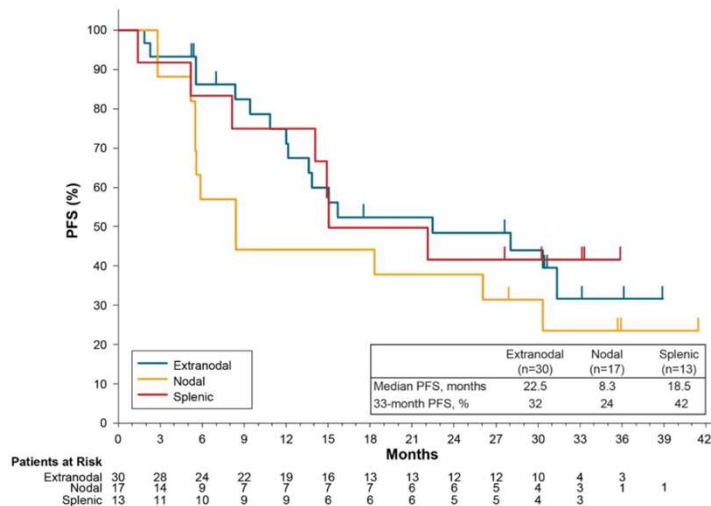
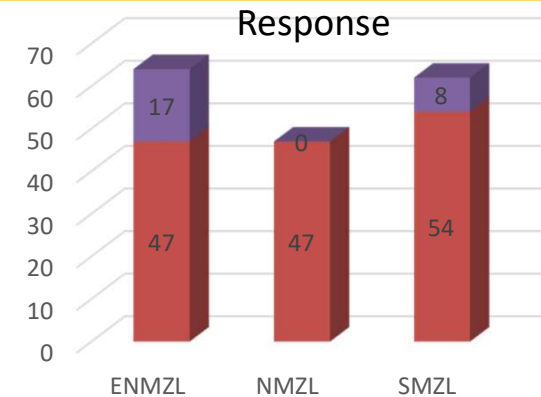
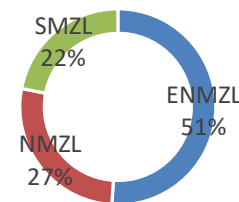
Prayongratana K, et al. Blood (2022) 140 (Supplement 1): 6536–6537.



New Treatment Options for Marginal Zone Lymphoma

Ibrutinib in patients with relapsed or refractory MZL: phase 2 PCYC-1121 study

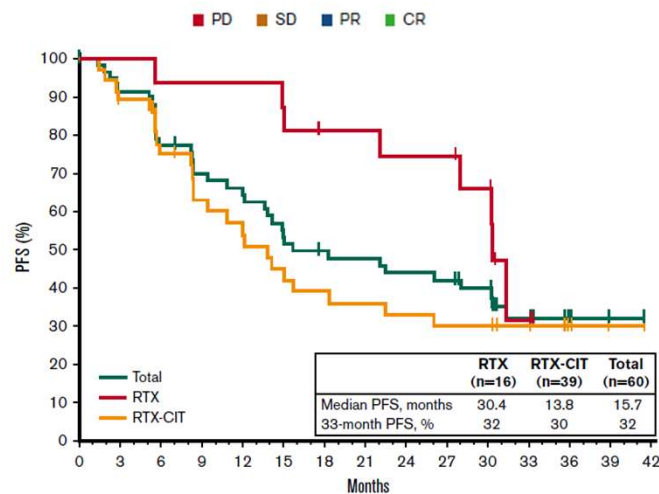
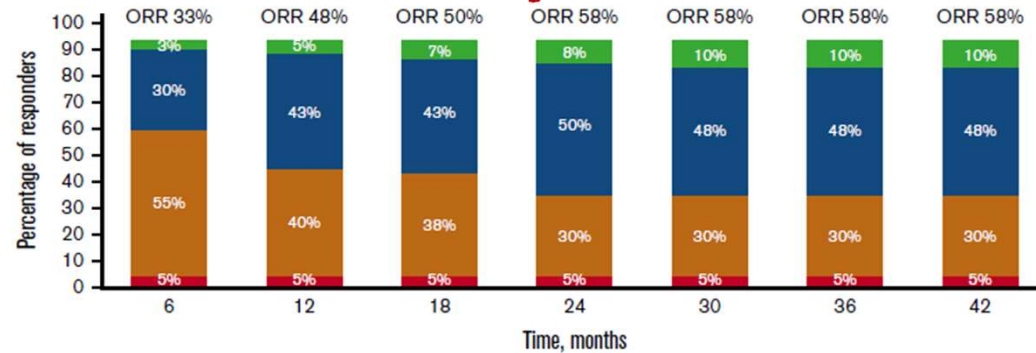
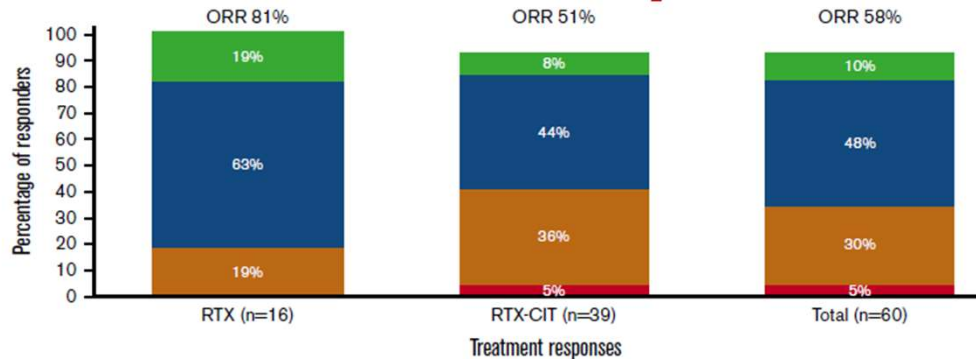
single-agent ibrutinib 560 mg/d in 63 patients with relapsed/refractory MZL treated with prior rituximab or rituximab-based chemoimmunotherapy.



Noy A, et al. Blood Adv. 2020;4(22):5773-5784.

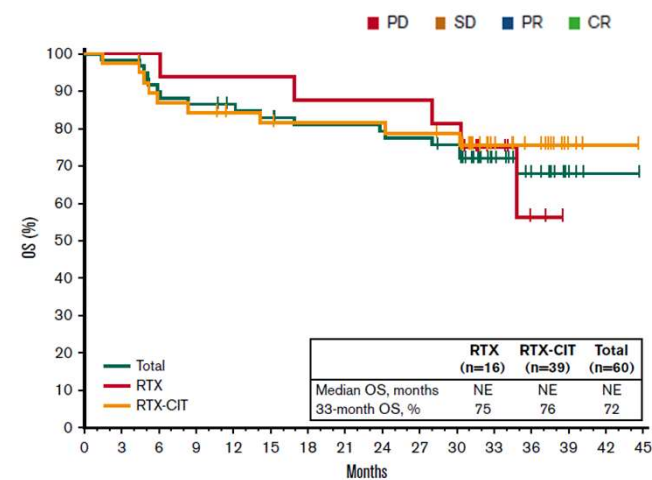


Ibrutinib in patients with relapsed or refractory MZL: phase 2 PCYC-1121 study



Patients at Risk

Total	60	53	43	38	35	29	26	25	23	22	18	10	4	1
RTX	16	16	15	15	15	13	12	12	11	11	8	2		
RTX-CIT	39	33	26	21	18	15	13	12	11	10	10	8	4	1



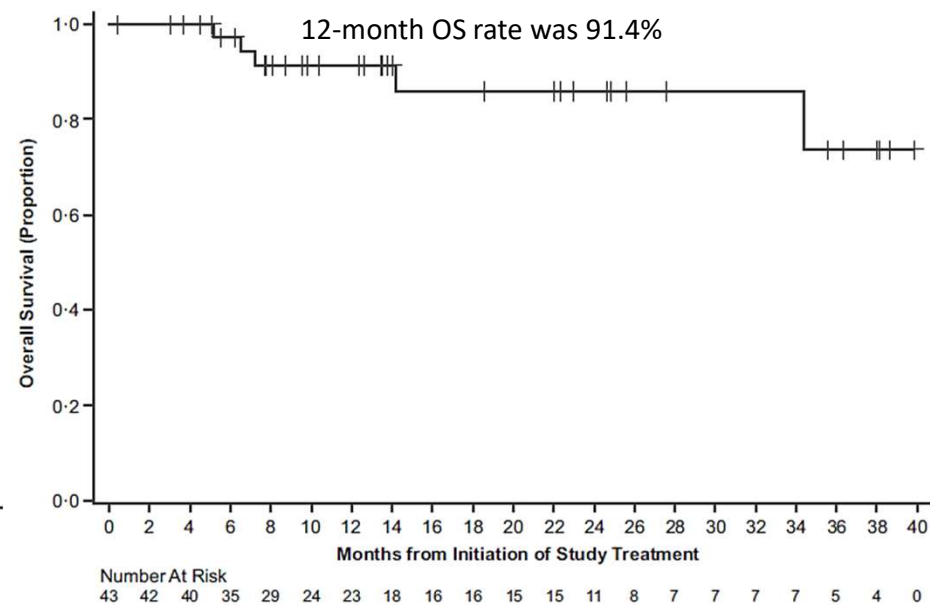
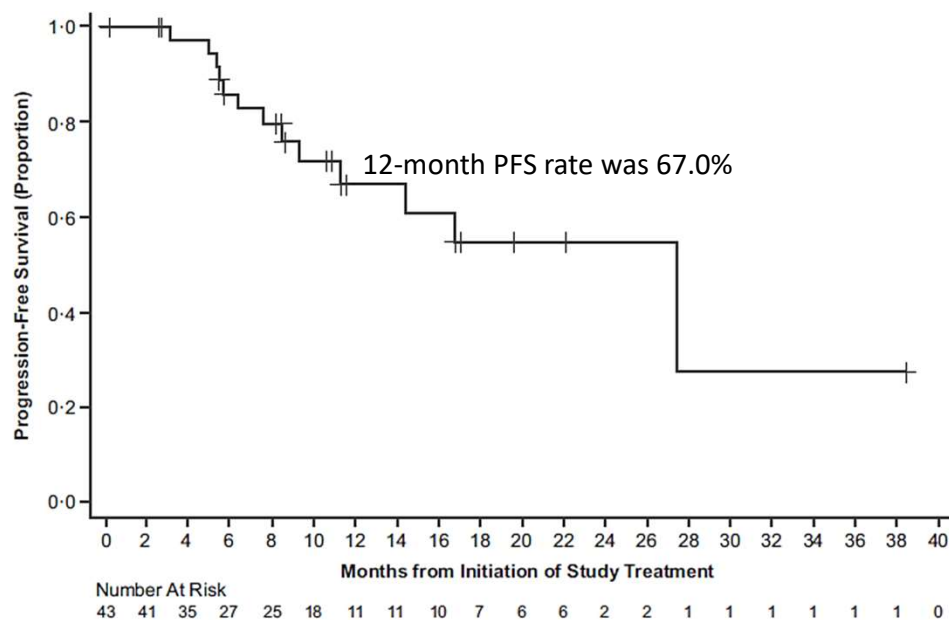
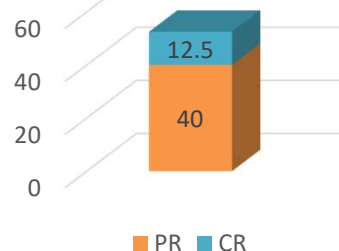
Patients at Risk

Total	60	59	53	51	49	47	45	45	44	43	41	23	15	3	1
RTX	16	16	16	15	15	15	14	14	14	14	13	6	2		
RTX-CIT	39	38	33	32	30	29	28	28	28	27	26	16	12	3	1

Noy A, et al. Blood Adv. 2020;4(22):5773-5784.

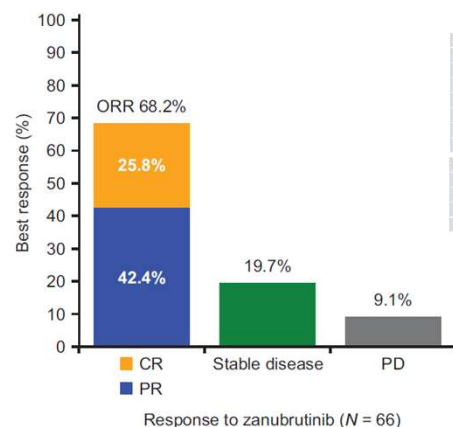
Acalabrutinib in patients with relapsed or refractory MZL: phase 2 ACE-LY-003 study

single-agent Acalabrutinib 100 mg BID in 43 patients with relapsed/refractory MZL treated with prior rituximab or rituximab-based chemoimmunotherapy.

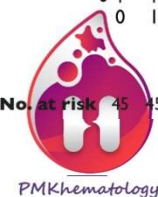
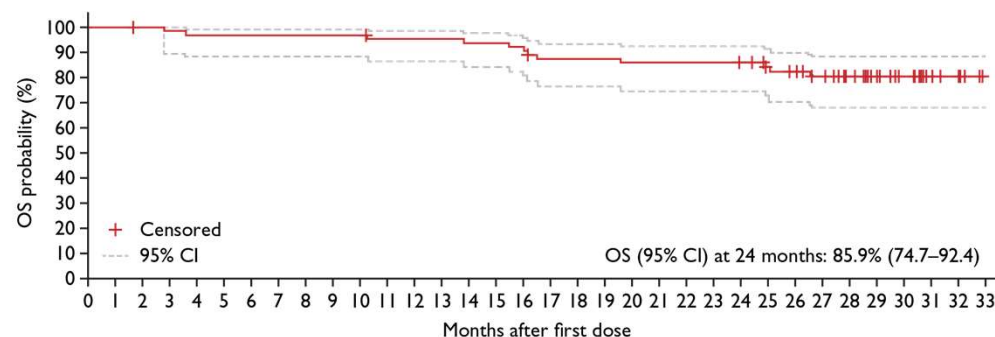
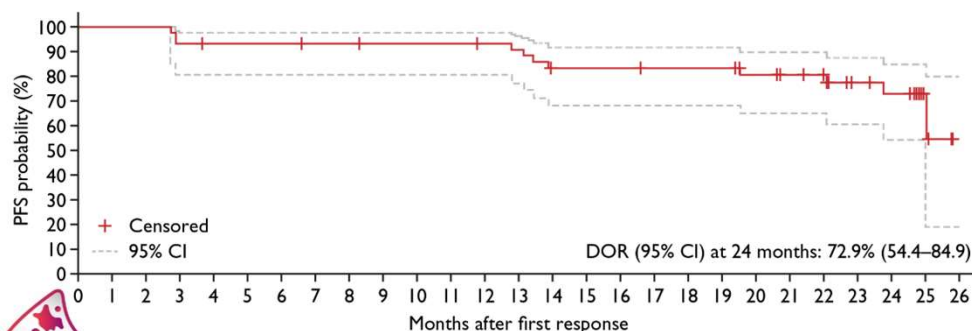


Zanubrutinib in patients with relapsed or refractory MZL: phase 2 MAGNOLIA trial

single-agent Zanubrutinib 160 mg BID in 66 patients with relapsed/refractory MZL treated with prior rituximab or rituximab-based chemoimmunotherapy.



Subgroup	Response/patients	ORR (95% CI)*
Prior treatment		
R-CVP	20/25	80.0 (59.30–93.17)
R-CHOP	9/17	52.9 (27.81–77.02)
BR	16/22	72.7 (49.79–89.27)
R-lenalidomide	1/2	50.0 (1.26–98.74)
Rituximab monotherapy	10/15	66.7 (38.38–88.18)
CHOP	2/3	66.7 (9.43–99.16)
R-chlorambucil	2/5	40.0 (5.27–85.34)
MZL subtype		
MALT	16/25	64.0 (42.52–82.03)
NMZL	19/25	76.0 (54.87–90.64)
SMZL	8/12	66.7 (34.89–90.08)
Unknown	2/4	50.0 (6.76–93.24)



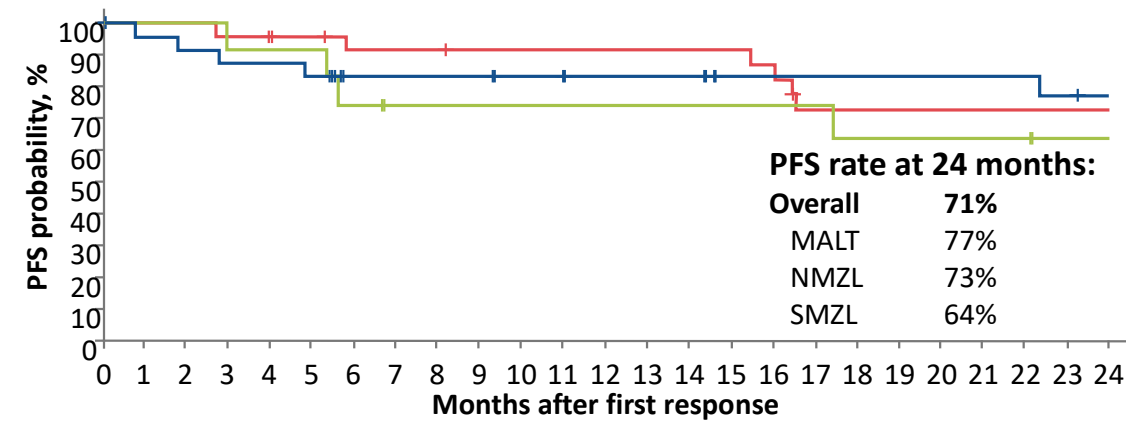
No. at risk 45 45 45 42 41 41 41 40 39 39 39 38 37 33 33 33 32 32 32 29 27 25 18 16 4 0

No. at risk 66 66 65 64 63 63 63 63 63 61 61 61 60 59 55 55 55 54 54 54 54 53 48 46 42 33 25 20 8 6 0

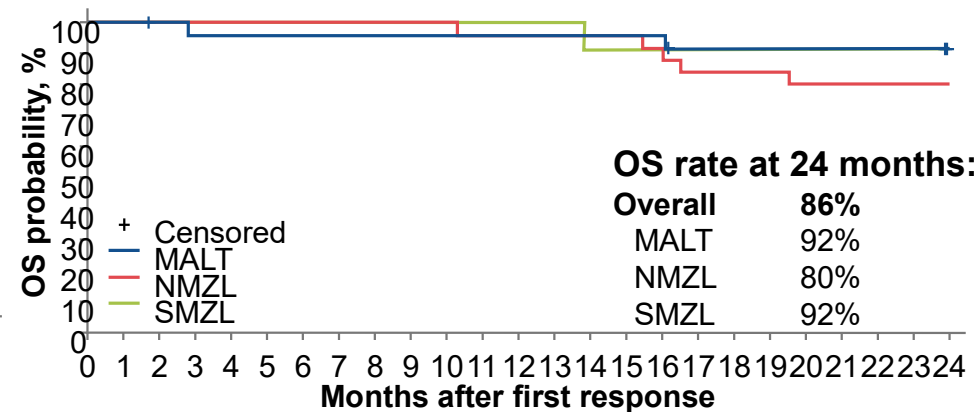
Opat S, et al. Clin Cancer Res. 2021;27(23):6323-6332.

Opat S, et al. Blood Adv. 2023 Nov 28;7(22):6801-6811.

Zanubrutinib: MAGNOLIA trial



Months after first response																									
No. at risk	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
MALT	25	23	22	21	21	20	18	18	18	18	17	17	16	16	16	14	14	14	14	14	14	14	14	13	12
NMZL	25	25	25	24	24	23	21	21	21	20	20	20	20	20	20	19	15	15	15	15	15	15	15	15	15
SMZL	12	12	12	11	11	11	8	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	4	4	



No. at risk

Months after first response	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
MALT	25	25	24	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	21	21	21	21	21	21	21
NMZL	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	23	21	21	21	20	20
SMZL	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	10

Axicabtagene ciloleucel (axi-cel): ZUMA-5 ★

Eligible Criteria

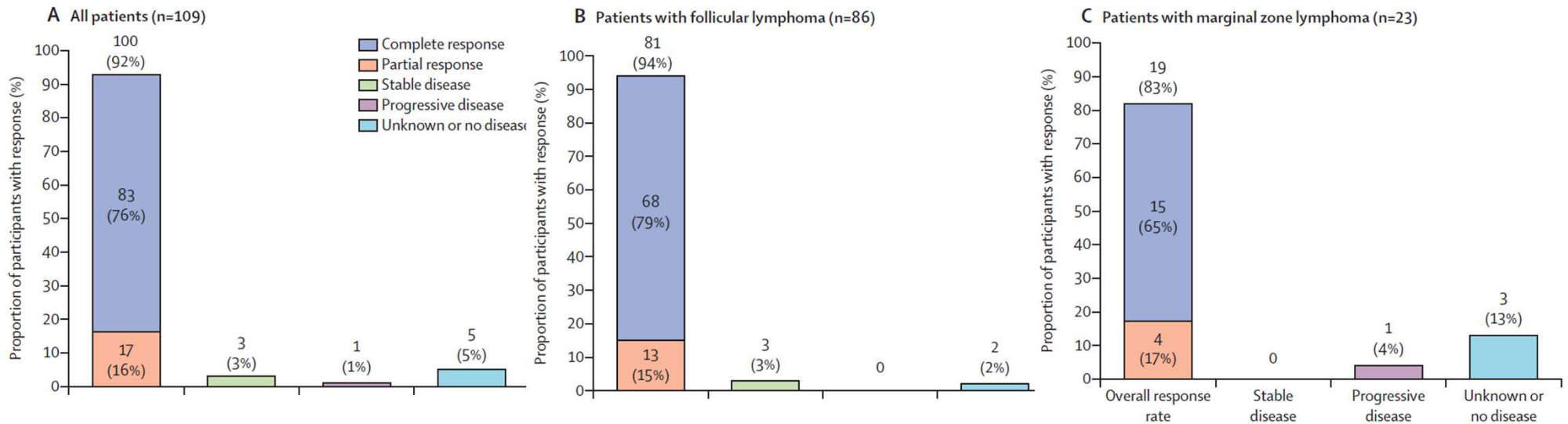
- 18 years or older,
- R/R FL and MZL after ≥ 2 lines of therapy (including anti-CD20 MAb)

Lymphodepletion regimen D -5, -4, and -3

Cyclophosphamide 500 mg/m²/d

Fludarabine 30 mg/m²/d

CART cell dose 2×10^6 cell/kg D0



Cytopenia

95%, Gr ≥ 3 70%

CRS

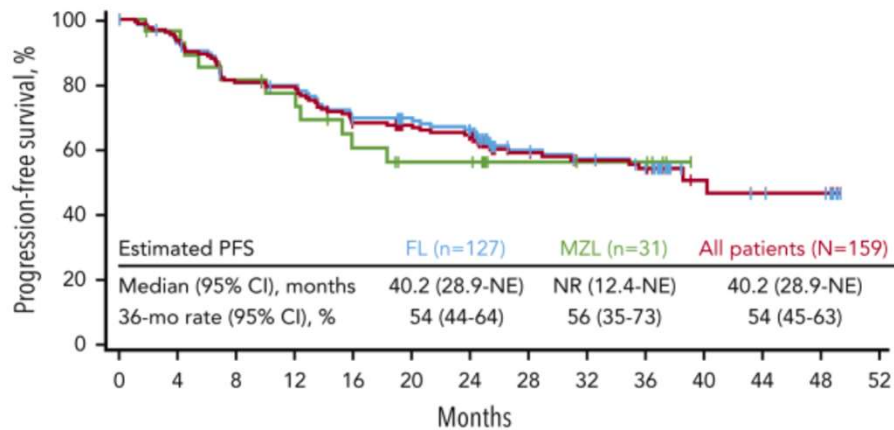
82%, Gr ≥ 3 7%

ICANS

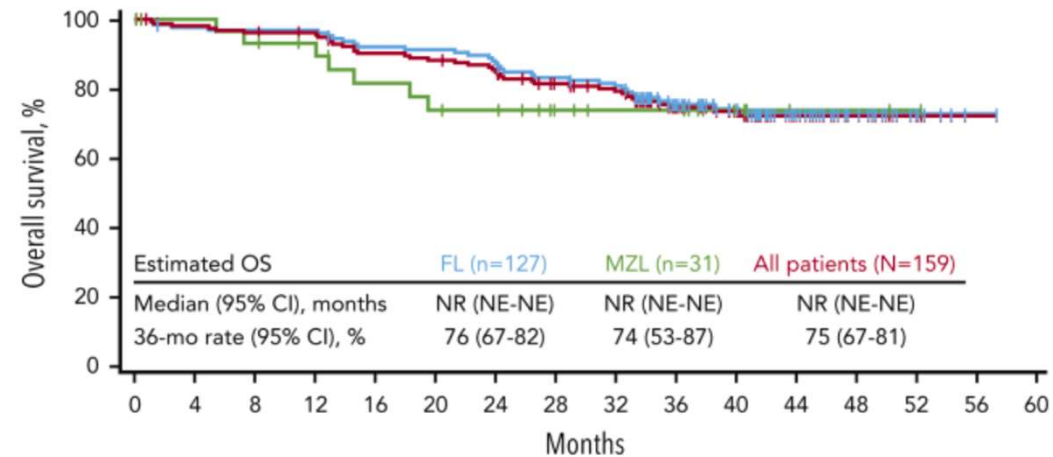
20%, Gr ≥ 3 9%

Jacobson CA, et al. Lancet Oncol 2022; 23: 91–103.

ZUMA-5: 3 year follow up



No. at risk													
FL	127	115	98	96	83	79	74	46	42	38	13	11	10
MZL	31	26	21	19	14	11	11	6	5	5	0		
All patients	159	141	119	115	97	90	85	52	47	43	13	11	10



No. at risk													
FL	127	123	122	122	115	114	110	103	99	73	54	34	19
MZL	31	29	27	25	21	19	18	12	10	10	5	2	2
All patients	159	152	149	147	136	133	128	115	109	83	59	36	21

Neelapu SS, et al. Blood. 2024;143(6):496-506.



Shifting Landscape of treatment in indolent B-cell Lymphoma Marginal zone lymphoma

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