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SPOTLIGHT ON T-CELL LYMPHOMA

Neha Mehta-Shah, MD, MSCI
Associate Program Director
Hematology-Oncology Fellowship
Associate Professor of Medicine
Siteman Cancer Center
Washington University School of Medicine in St. Louis
St. Louis, MO

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WELCOMING REMARKS

SPOTLIGHT ON T-CELL LYMPHOMA

Lizette Figueroa-Rivera, MA
Senior Director, Education & Support
The Leukemia & Lymphoma Society
Rye Brook, NY

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PRESENTATION

SPOTLIGHT ON T-CELL LYMPHOMA

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DISCLOSURES

SPOTLIGHT ON T-CELL LYMPHOMA

Neha Mehta-Shah, MD, MSCI

Institutional Research Funding: Bristol Myers Squibb, Celgene, Verastem Pharmaceuticals, Innate Pharmaceuticals, Roche/Genentech, Corvus Pharmaceuticals, AstraZeneca, Daiichi Sankyo; Morphosys, SeaGen

Consultancy: AstraZeneca, C4 Therapeutics, Kiowa Hakka Kirin, Karyopharma, Ono Pharmaceuticals, Secura Bio, Daiichi Sankyo, Genentech

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LYMPHOMA BACKGROUND

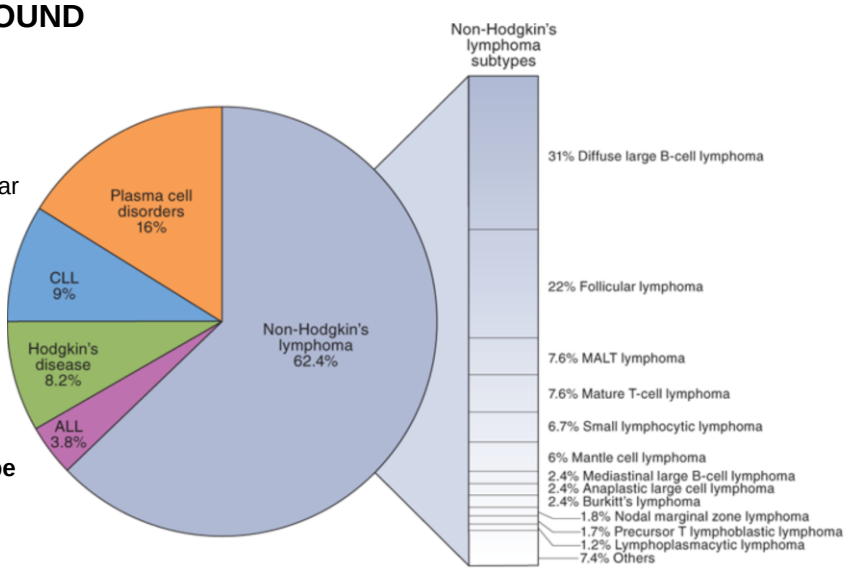
15,720 cases per year

- Incidence increasing ~4%/year
- 4% of all Cancers in the US

>100 forms of Lymphoma

- 10% Hodgkin lymphoma
- The rest are non-Hodgkin lymphomas

Goals of treatment and treatment options differ by type



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Harrison's Principles of Internal Medicine

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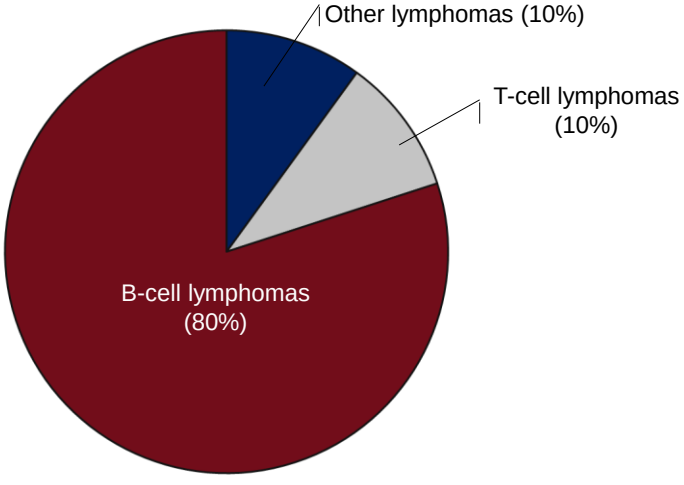
DISTRIBUTION OF NON-HODGKIN LYMPHOMAS



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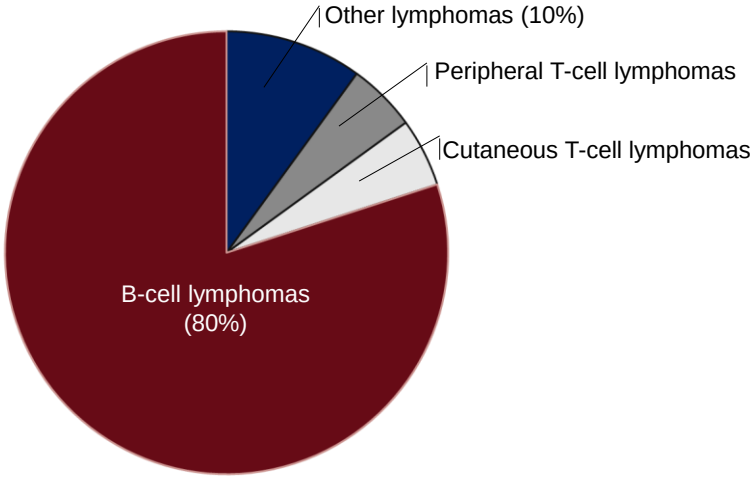
T-CELL LYMPHOMAS ARE DIVIDED INTO PERIPHERAL AND CUTANEOUS T-CELL LYMPHOMAS



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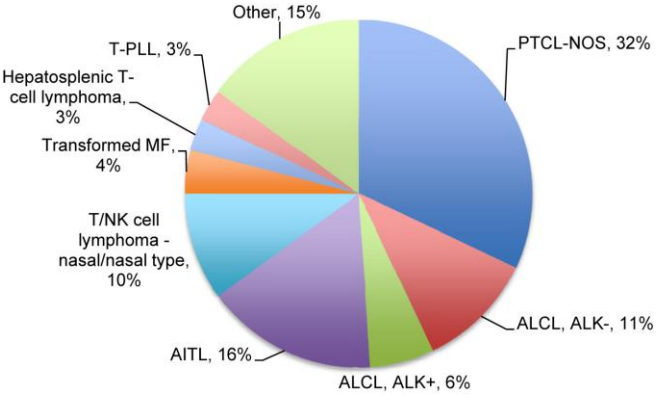
BACKGROUND: PERIPHERAL T-CELL LYMPHOMAS (PTCL)

PTCL: rare, heterogenous disease

- 7% of all non-Hodgkin lymphomas
- 19 entities with varied clinical and pathologic presentations
- Median age at diagnosis: 65 years

Treatment strategies derived from aggressive B-cell lymphomas

Different histologies have unique biology which may inform future treatment



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Hsi et al. *Clin Lymph Myel Leukemia* 2017

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BACKGROUND: PERIPHERAL T-CELL LYMPHOMAS (PTCL)

Most common subtypes:

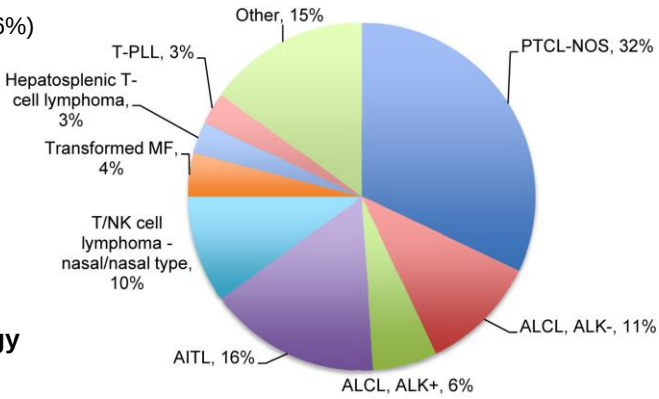
PTCL-NOS (32%)

T-follicular helper phenotype lymphomas (16%)

- Angioimmunoblastic type (AITL)
- PTCL-NOS of TFH phenotype
- Follicular T-cell lymphoma

Anaplastic Large Cell Lymphoma (ALCL)

- ALK negative (11%)
- ALK positive (6%)



Different histologies have unique biology which may inform future treatment

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Hsi et al. *Clin Lymph Myel Leukemia* 2017

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GETTING THE RIGHT DIAGNOSIS

Can be through a needle biopsy or surgical biopsy

Histology: how the cells relate to each other

Staining: immunohistochemistry

Markers: flow cytometry

Molecular: T-cell receptor gene rearrangements

Diagnosis can differ in up to 25% of cases between community pathology evaluation and academic medical centers

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STAGING:
HOW WE KNOW WHERE THE LYMPHOMA IS?

Scans (Pictures)

PET/CT Scans or CT Scans

Bone Marrow Biopsy

11 Abbreviations: CT, computed tomography; PET/CT, positron emission tomography.

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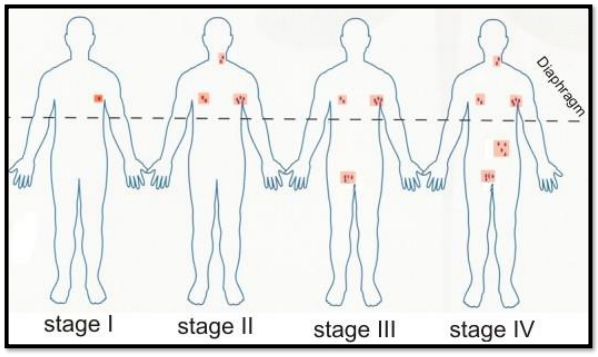
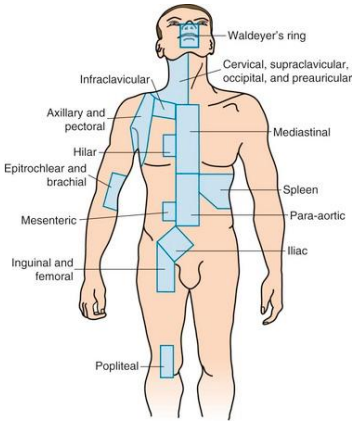
MOST LYMPHOMAS USE THE ANN ARBOR SYSTEM





Cutaneous T-cell Lymphomas and Breast Implant-Associated Anaplastic Large Cell Lymphoma have different staging systems

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TREATMENT OPTIONS

Chemotherapy
Radiation therapy
Antibody therapy
Immunotherapy (boost the immune system to stop the cancer)
Antibodies attached to chemotherapy
Targeted therapies: therapies to block key cancer pathways
Stem cell transplant
Autologous: From your own cells
Allogeneic: Replacing your immune system with someone else's

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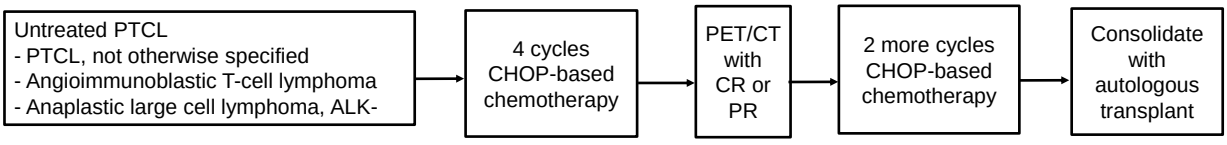
A PARADIGM FOR FRONT-LINE TREATMENT OF PTCL



Curative Treatment Options

CHOP
cyclophosphamide, doxorubicin, vincristine, prednisone
CHOEP
CHOP with etoposide
Brentuximab vedotin-CHP
Standard of care for anaplastic large cell lymphoma

14 Abbreviations: CHP, cyclophosphamide, doxorubicin, prednisone; CR, complete remission; CT, computed tomography; PET/CT, positron emission tomography; PR, partial response; PTCL, peripheral T-cell lymphoma

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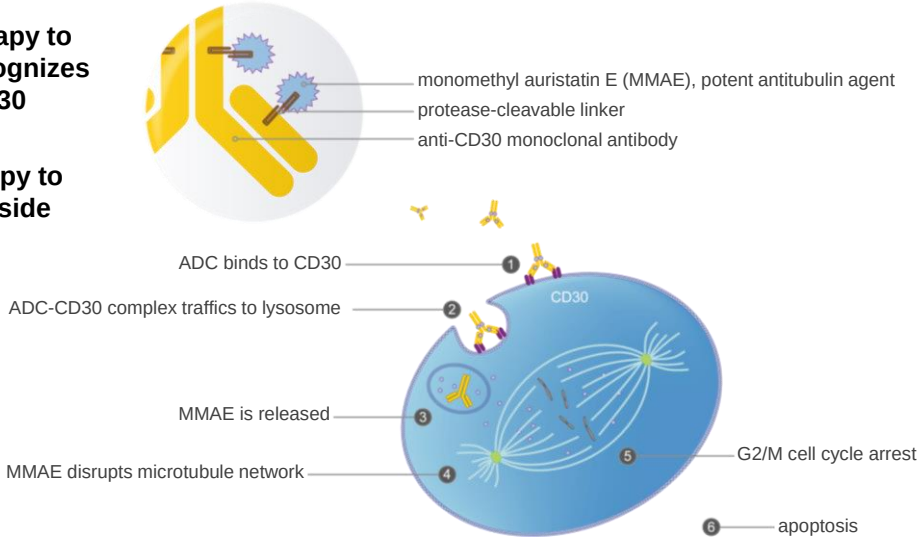
BRENTUXIMAB VEDOTIN: ANTIBODY DRUG CONJUGATE TO CD30

Attaches chemotherapy to an antibody that recognizes a cancer protein, CD30

Delivers chemotherapy to the cancer with less side effects



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Stenger, ASCO Post 2011

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BRENTUXIMAB VEDOTIN + CHP VS. CHOP

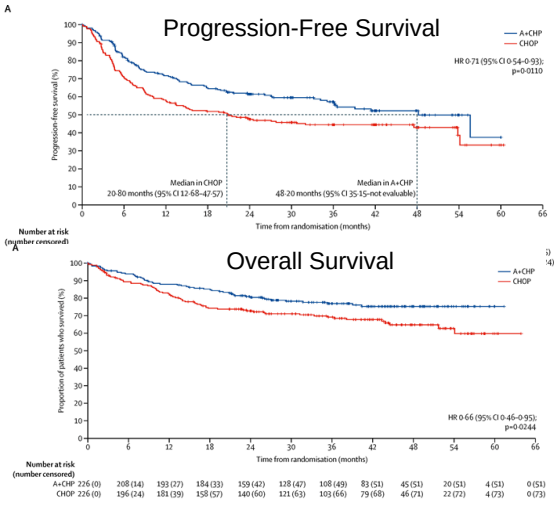
Randomized, international study of brentuximab vedotin+CHP versus CHOP

- Patients with CD30 expression >10%
- Mainly patients with anaplastic large cell lymphoma

Brentuximab vedotin-CHP showed improved

- Time to progression
- Overall survival

Difference most pronounced in anaplastic large cell lymphoma



16 Abbreviations: CHOP, cyclophosphamide, doxorubicin, vincristine, prednisone CHP, cyclophosphamide, doxorubicin, prednisone

Horwitz *Lancet* 2019

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ONGOING EFFORTS TO IMPROVE ON CHOP

Brentuximab vedotin-CHOEP

City of Hope, MD Anderson, Hackensack, Ohio State, BCCA

CHO(E)P vs. CHO(E)P + duvelisib vs. CHO(E)P + 5-azacitidine

US Intergroup study

17 Abbreviations: CHO(E)P, cyclophosphamide, doxorubicin, etoposide, vincristine, prednisone

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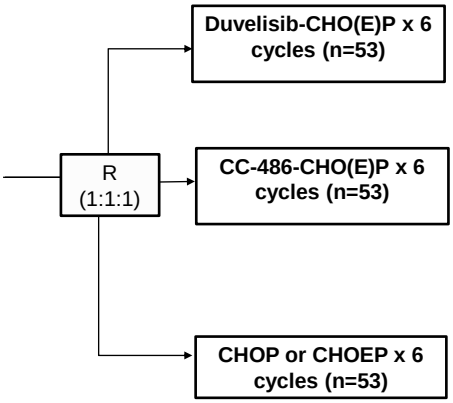
A051902: A RANDOMIZED PHASE 2 STUDY OF DUVELISIB OR 5-AZACITIDINE IN ADDITION TO CHOP OR CHOEP IN COMPARISON TO CHOP/CHOEP

Untreated PTCL

- CD30 expression <10% by IHC (excludes ALCL)

Stratify for:

- TFH-PTCL/AITL
- CHOP/CHOEP backbone therapy
  - CHOP: age >60
  - CHOEP: age ≤60



Cycle =21 days

Primary Objective:

- Complete remission by PET/CT

Primary Endpoint:

- 25% difference PET CR rate

Correlative Studies:

- Monitoring MRD
- Gene-expression profiling and custom capture sequencing
- Patient-reported outcomes
- PET/CT evaluation

18 Abbreviations: CHO(E)P, cyclophosphamide, doxorubicin, etoposide, vincristine, prednisone; CR, complete remission; MRD, minimal residual disease; PET/CT, positron emission tomography
Mehta-Shah *JCO* 2022;40(Suppl16):AbsTPS7593 available at: https://doi.org/10.1200/JCO.2022.40.16_suppl.TPS7593 (NCT04803201)

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What happens if my cancer comes back after CHOP based therapy?

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RELAPSED/REFRACTORY PERIPHERAL T-CELL LYMPHOMAS

Patients can be cured with an allogeneic transplant

We think up to 50% of patients at three years

Prognosis is poor and most patients die of their disease

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CLINICAL ACTIVITY OF NOVEL THERAPEUTICS APPROVED IN PERIPHERAL T-CELL LYMPHOMA

		Overall Response Rate (ORR)	Complete Remission Rate	ORR PTCL-NOS	ORR AITL	ORR ALCL
FDA Approved	**Histone Deacetylase Inhibitors**					
	Romidepsin	25%	15%	29%	30%	24%
	Belinostat	26%	11%	23%	54%	15%
	Anti-Folate					
	Pralatrexate	29%	15%	32%	8%	29%
	CD30-Targeted Approaches					
	Brentuximab vedotin	69%	44%	33%	54%	86%

Duration of response to treatment is also limited

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MANY NEW PROMISING THERAPIES

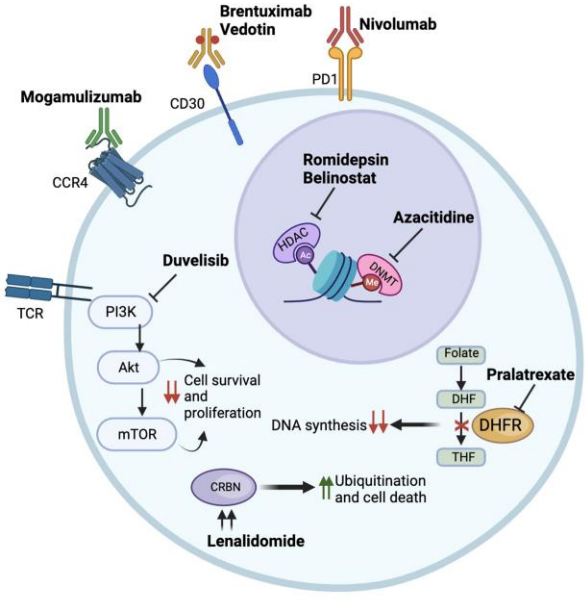
Romidepsin-based combinations

JAK/SYK inhibitors

PI3 kinase inhibitors

EZH2 inhibitors

Checkpoint inhibitors



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Burton et al *Clin Lymphoma Myeloma Leukemia* 2023

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ROMIDEPSIN-BASED COMBINATIONS

Romidepsin + lenalidomide
Romidepsin + lenalidomide + carfilzomib
Romidepsin + 5-azacitadine
Romidepsin + pralatrexate

Romidepsin-based combinations seem to have overall response rates >50% in small studies

AITL may have a higher sensitivity to these therapies

23 Abbreviations: CT, computed tomography

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INHIBITORS OF THE JAK PATHWAY

Golidocitinib (JAK 1/2 inhibitor)

Overall response rate 44% by CT

Cerdulatinib (JAK/SYK inhibitor)

Overall response rate 35% with higher response rate in AITL (52%)

Ruxolitinib (JAK2 inhibitor)

Overall response rate 23% but higher in tumors with JAK mutations or activation of that pathway

24 Abbreviations: CT, computed tomography
Horwitz ASH 2019; Moskowitz ASH 2019; Song *Lancet Oncology* 2023

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PI3K GAMMA-DELTA INHIBITOR IN TCL

Duvelisib

- 75mg BID x 2 cycles→ 25mg BID unless progression/intolerance
- ORR 49%, CR 34% (n=101)
  - Appears to be slightly better in AITL/TFH phenotype lymphomas

Characteristic	PRIMO-EP (N=101)	
	ORR (%)	mPFS (range)
Overall	**49/101 (49%)**	**3.6 mo (3.2-8.1)**
PTCL-NOS	25/52 (48%)	6 mo (1.8- 8.1)
AITL	**20/30 (67%)**	**9.2 mo (3.8- NC)**
ALCL	2/15 (13%)	1.5 mo (0.4 - 1.8)

Multiple other PI3 kinase inhibitors in development

- Tenalisib: ORR 46% (n=35)
- Linperlisib: ORR 48% (n=88)

Abbreviations: BID, twice a day; CR, complete remission; mPFS, median progression-free survival; ORR, overall response rate; PRIMO-EP, PRIMO Trial (NCT03372057)-Extended Phase

25 Horwitz et al. ASH 2014, Horwitz et al *Blood* 2017. Zinzani PL. *Hemasphere* 2022 Jun 23;6(Suppl):1058-1059. doi: 10.1097/01.HS9.0000847552.42271.7c.

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ALK INHIBITION IN ALK EXPRESSING ALCL

ALK inhibitors are approved for ALK expressing lung cancer

ALK rearrangements seen in ALK+ ALCL

t(2,5) leading to fusion of ALK to NPM1 or ALK to other partner genes

Crizotinib studied in ALK+ ALCL by the Children's Oncology Group

Offically FDA approved in 2021 for Pediatrics/Young Adults with ALK+ ALCL

Outcome	ALCL165 (n=6)	ALCL280 (n=20)	Overall (n=26)
ORR	6 (83%)	18 (90%)	24 (92%)
CR	5 (83%)	16 (80%)	21 (81%)
PR	0	2 (10%)	2 (8%)
SD	1 (17%)	2 (10%)	3 (12%)
PD	0	0	0 (0%)

Abbreviations: CR, complete remission; ORR, overall response rate; PD, progressive disease; PR, partial response; SD, stable disease

26 Mosse et al *JCO* 2018; Mosse YP. *JCO* 2017;35(28):https://doi.org/10.1200/JCO.2017.73.4830

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EZH2 INHIBITORS

Valemetostat (EZH 1/2)

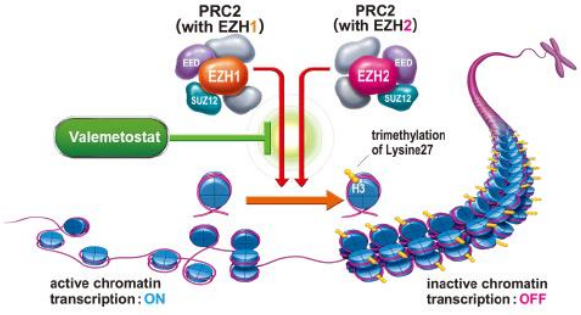
Overall response rate 52% by PET/CT (n=119)
Trend towards higher response rate in AITL
Duration of response 11.9 mo

HH2853 (EZH 1/2)

Overall response rate 65% (n=34)

Tulmimetostat

Studies ongoing
NCT04104776



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Horwitz ASH 2023; Song ASH 2023; Drescher ASCO 2023

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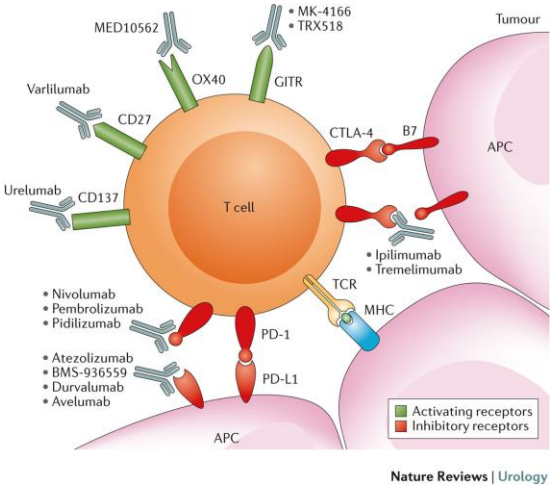
IMMUNOTHERAPY/CHECKPOINT INHIBITORS

Normal immune systems have "brakes" and "accelerators" to modulate the immune system

Checkpoint inhibitors take the brakes off the immune system and uncloaks the disguised cancer

Can be effective in some T-cell lymphomas (cutaneous T-cell lymphoma or NK/T-cell lymphoma)

Can be associated with more rapid disease progression in others



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Carlo, et al *Nature Reviews* 2016

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CAR T-CELLS IN T-CELL LYMPHOMAS

CD5 CAR (Baylor; NCT03081910)
CRs seen in PTCL, AITL

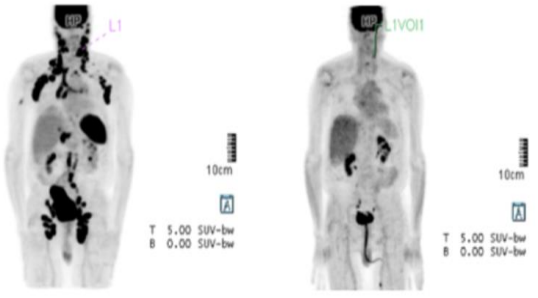
CD30 CAR
Baylor: NCT02917083
UNC: NCT02690545
UNC: NCT03602157

CD7 CAR
Baylor NCT 03680011

CD37 CAR
MGH: NCT04136275

CD7 Allogeneic CAR
Wash U: NCT05377827

Pre-CD5 CAR T => CR @ 4 wk post CD5 CAR-T



29 Abbreviations: CAR, chimeric antigen receptor

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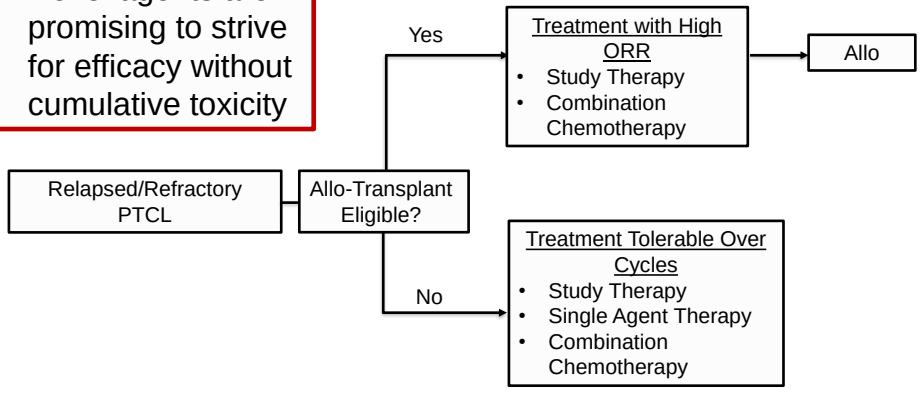
MY SIMPLE PARADIGM OF A COMPLEX PROBLEM

- Enroll to studies!
- Novel agents are promising to strive for efficacy without cumulative toxicity



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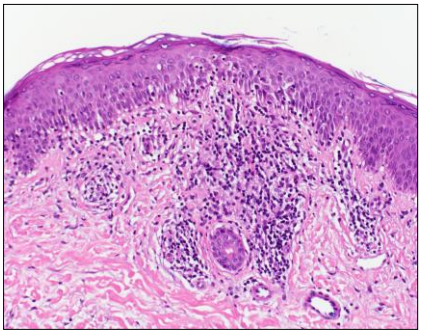
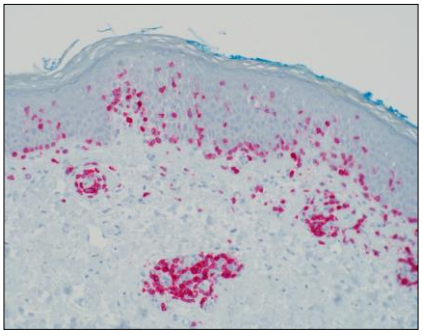
CUTANEOUS T-CELL LYMPHOMA





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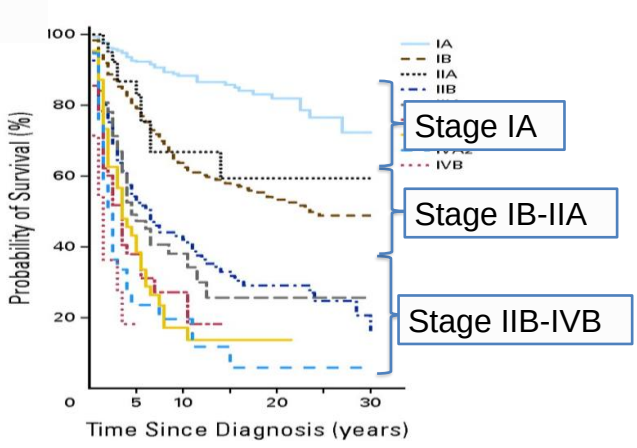
PROGNOSIS IN CTCL IS HETEROGENEOUS



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Agar et al. *J Clin Oncol* 2010;28:4730

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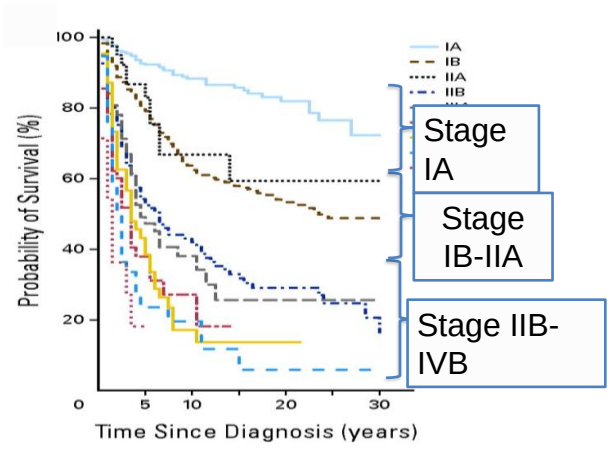
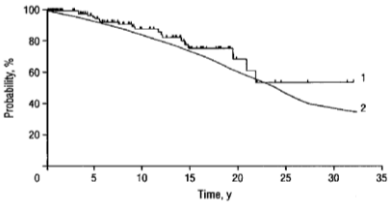
PROGNOSIS IN CTCL IS HETEROGENEOUS



Stage IA compared to age-matched controls



Kim et al, *Arch Dermatol* 1996;132:1309 Talpur et al. *Clin Cancer Res* 2012; Agar et al. *J Clin Oncol* 2010;28:4730

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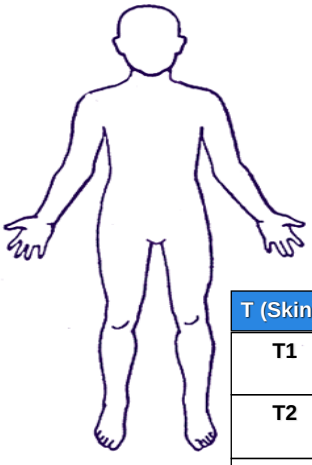
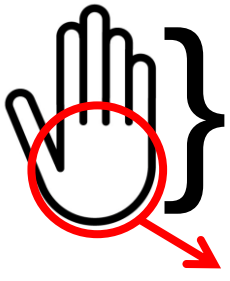
SKIN STAGING





= 1% of BSA

0.5% of

T (Skin):	
T1	Limited patch/plaque (< 10% of total skin surface)
T2	Generalized patch/plaque (≥10% of total skin surface)
T3	Tumors
T4	Generalized erythroderma

Arch Dermatol 2002;138:42-48

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STAGING OF MYCOSIS FUNGOIDES AND SEZARY SYNDROME

N stage:

Presence of disease involving the lymph nodes, has different gradings

B0 Absence of sig. blood involvement

Sézary cells ≤5% lymphs

B1 Low blood tumor burden

Sézary cells >5% lymphs, but <1,000 /mm^3 by morphology, lack of other B2 parameters

B2 High blood tumor burden (Sézary syndrome)

Morphology, Sézary cells ≥1,000 /mm^3 plus relevant clone+

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Olsen et al, *Blood* 2022; Vonderheid et al, *JAAD* 2002

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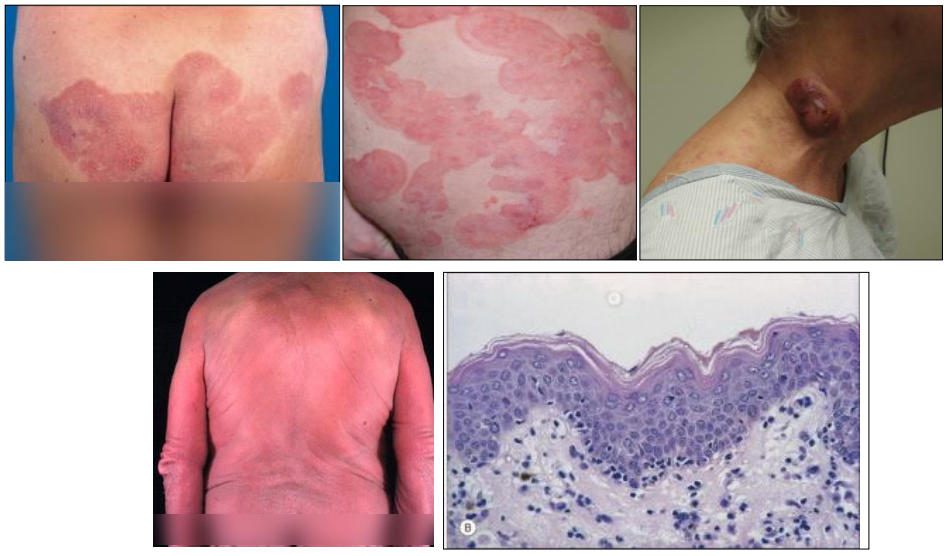
MANY FORMS OF MYCOSIS FUNGOIDES



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Photographs from A. Musiek M.D. and S. Horwitz M.D.

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GUIDING PRINCIPLES FOR CTCL MANAGEMENT

CTCL are highly heterogeneous

Prognosis is highly varied

Early aggressive therapy tends not to change outcome

- Most therapies have limited duration of response
- Therapies often lead to partial not complete remissions

Treatment is guided around patient quality of life

- "Don't make treatment worse than the disease"

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RELIABLE SKIN RESPONSES WITH SKIN-DIRECTED OPTIONS AS PRIMARY THERAPY IN STAGES I-IIA (SKIN-LIMITED, PATCH/PLAQUE DISEASE)

	Skin Therapy	CR	ORR
FDA approved	Topical steroids	45-65%	75-95%
	Bexarotene gel	20-35%	50-75%
	Topical NM	25-70%	50-90%
	nbUVB	45-75%	75-100%
	PUVA	50-80%	85-100%
	TSEBT (12-36 Gy)	30-90%	90-100%

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Arch Dermatol 2003;139:165, *J Am Acad Dermatol* 2003;49:801, *J Am Acad Dermatol* 2002;47:191, *Arch Dermaol* 2005;141:305, *Arch Dermatol* 2011;147:561, *Arch Dermatol* 2001;137:581, *J Clin Oncol* 2007;25:3109, *J Clin Oncol* 2010;28:4485

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WHEN TO ADD SYSTEMIC THERAPIES IN CTCL

Early stage disease refractory to skin-directed treatment (Stage IA/IIA)

Consider higher risk features: folliculotropism, large cell transformation

Advanced disease (Stage IIB-IVB)

Often combine skin-directed therapy with systemic therapy

"Don't Make the Treatment Worse than the Disease"

Prefer less toxic therapy first
Limit cumulative toxicity
More likely to chose single agents sequentially

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NCCN 2020

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SELECTED SYSTEMIC THERAPIES FOR MF > STAGE IIB

Agent	Response Rate	CR	Median DOR
Bexarotene	45–55%	6%	11-13 mo
Vorinostat	29.5%	<1%	6 mo
Denileukin diftitox	36%	12%	5-11 mo
Romidepsin	38%	7%	11.1-15 mo
Gemcitabine	68%	8%	4 mo
CAVE + TSEB	88%	31%	12 mo
Pralatrexate	53%	6%	6 mo
Liposomal doxorubicin	41%	6%	12 months
Brentuximab (n = 48)*	50%	16%	15.1 mo
Mogamulizumab (n = 186)	28%	2.6%	14.1 mo

Horwitz SM. *Clin Lymphoma Myeloma.* 2008;8(suppl 5):S187
Prince et al. *Lancet* 2017
Kim et al. *Lancet* 2018
Piekarz et al. *JCO* 2009
Whittaker et al. *JCO* 2010
Olsen et al. *JCO* 2007
Duvic et al. *JCO* 2001
Atilla et al. *Trans. Clin. Bio.* 2017
Duvic et al *Clin Lymph Myel* 2006
Kaye *NEJM* 1989

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BRENTUXIMAB VEDOTIN (BV) IN CTCL

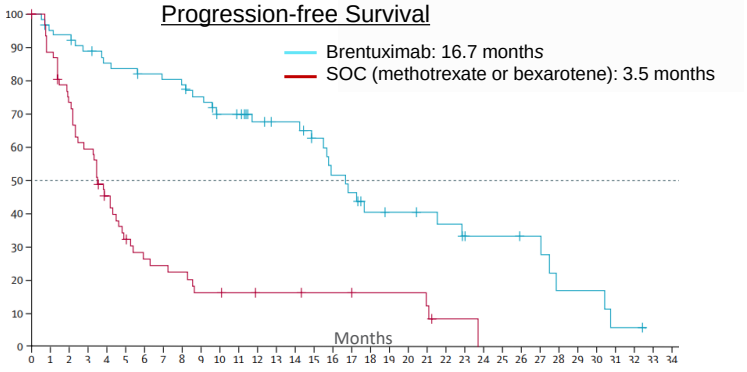
ALCANZA (n=131): International phase 3 study (52 centers in 13 countries)

Brentuximab vedotin 1.8mg/kg q3 weeks x 16 weeks vs SOC (MTX or bexarotene)

Required CD30 expression ≥10%

ORR4 50% vs 10% with SOC therapy in R/R MF

BV improved patient-reported life quality symptom burden, measured by Skindex-29



41 Abbreviations: MF, mycosis fungoides; ORR4, objective response rate ≥4 months; R/R, relapsed/refractory; SOC, standard of care
Prince et al. Lancet 2017; Horwitz S et al. *Blood Adv* 2021 Dec 14;5(23):5098-106

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BRENTUXIMAB VEDOTIN (BV) IN CTCL

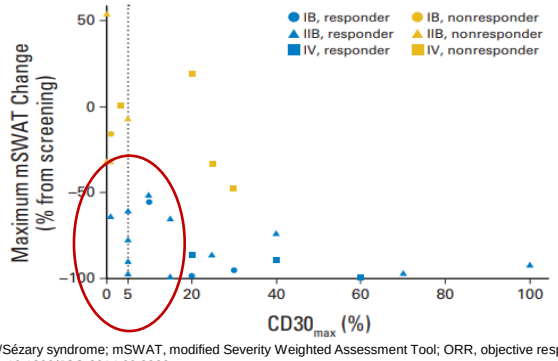
CD30 expression and response

Phase 2 study of patients with MF/SS (n=30) with CD30 expression ranging from 0-100%

Treated with BV q3 weeks

ORR 70%

CD30 <5% less likely to respond (17% vs 83%)



42 Abbreviations: MF/SS, mycosis fungoides/Sézary syndrome; mSWAT, modified Severity Weighted Assessment Tool; ORR, objective response rate
Kim et al. 2015 Nov 10;33(32):3750-8. doi: 10.1200/JCO.2014.60.3969

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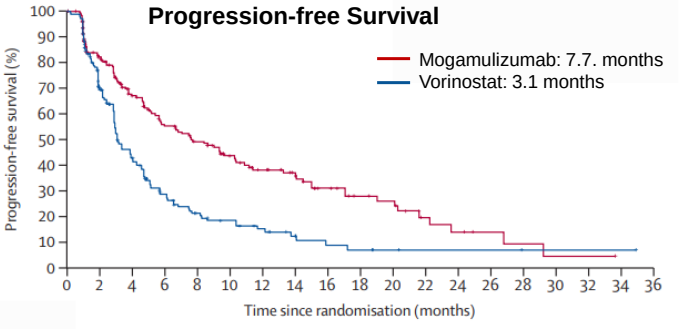
MOGAMULIZUMAB IN CTCL

MAVORIC: randomized international phase 3 trial

372 patients were randomized at 59 centers across 11 countries

Randomized 1:1: mogamulizumab vs vorinostat in CTCL

ORR: mogamulizmab 28% vs vorinostat 5%



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Kim et al MAVORIC *Lancet Oncol* 2018

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CLINICAL ACTIVITY OF MOGAMULIZUMAB BY COMPARTMENT

Compartment response rate (confirmed)a, n/N (%)	Mogamulizumab	Vorinostat
Skin		
ORR (CR+PR)	78/186 (42)	29/186 (16)
CR	8 (4)	1 (1)
Blood		
ORR (CR+PR)	83/124 (67)	23/125 (18)
CR	54 (44)	5 (4)
Lymph nodes		
ORR (CR+PR)	21/136 (15)	5/133 (4)
CR	10 (7)	2 (2)
Viscera		
ORR (CR+PR)	0/3 (0)	0/3 (0)
CR	0	0

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Abbreviations: CR, complete response; ORR, overall response rate; PR, partial response

Kim et al MAVORIC *Lancet* 2018

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TELLOMAK: PHASE 2 TRIAL OF LACUTAMAB IN R/R SS AND MF

International, multicenter, multicohort, multicenter trial, report on Cohort 1

Patients 18 yr or older with R/R stage IVA, IVB, B2 blood in screening SS; R/R stage IB-IV MF; no evidence of LCT; ECOG PS

(N=160)

(N ~60)
Cohort # 1: SS → **Sézary Syndrome** ≥2 prior systemic therapies that must include mogamulizumab

(N ~100)
Cohort 2: KIR3DL2 ≥1% Simon 2 Stage
Cohort 3: KIR3DL2 <1%, Simon 2 Stage
All comers: KIR3DL2 ≥1% or <1% → **Mycosis Fungoides** ≥2 prior systemic therapies including biological agents

→ **Lacutamab** → *Followed until disease progression or unacceptable toxicity*

Primary endpoint: ORR

Secondary endpoints: safety, quality of life, progression-free survival, overall survival, duration of response, pharmacokinetic parameters

45 Abbreviations: ECOG PS, ECOG-ACRIN Cancer Research Group Performance Status; MF/SS, mycosis fungoides/Sézary syndrome
Porcu. ASH 2023. Abstr 185;
Slide credit: clinicaloptions.com

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ANTI-KIR3DL2 (LACUTAMAB)

KIR3DL2: Inhibitory member of the KIR family
- Expressed by a small fraction of non-malignant NK and T cells
- Widely expressed in SS (>80%)

Best global response: 37%
- Best skin response: 46%
- Best blood response: 48%
- Best LN response: 19%

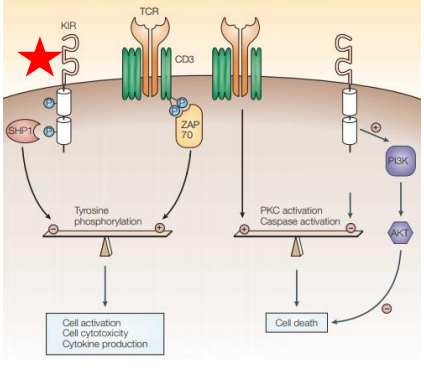
Median DoR: 12.3 mo

Median PFS: 8.0 mo

Most frequent AE:

- fatigue (12.5%), rash (12.5%), GI (10.7%)

Grade 3 or higher AEs: 17.9%



Vivier and Anfossi 2004
Thonnart et al. 2014
Marie-Cardine et al. 2014

46 Abbreviations: AE, adverse event; DoR, duration of response

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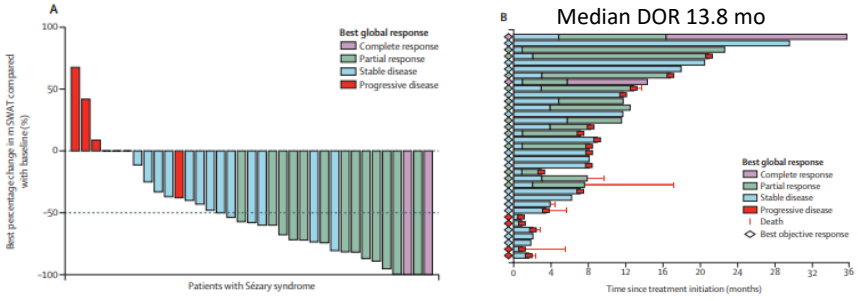
ANTI-KIR3DL2 (LACUTAMAB)

Phase 1 study of IPH4102 in 44 patients with relapsed/refractory MF or SS
ORR 36% and 43% in SS subset
Phase 2 study ongoing (TELLOMAK)



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Bagot et al. 2019

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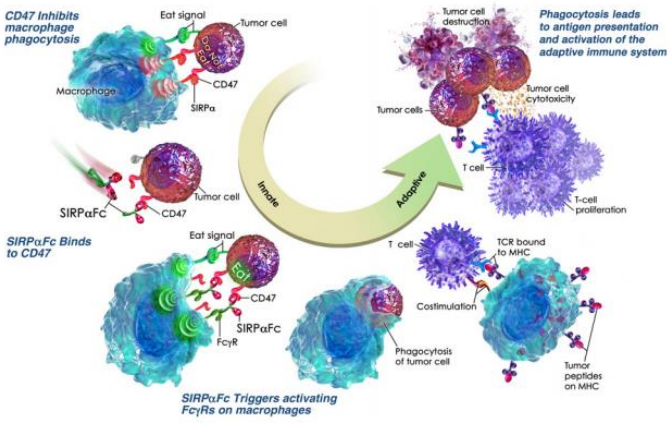
CD47 DECOY RECEPTOR (TTI-621)

CD47 functions as a "don't eat me" signal to block phagocytosis by macrophages
SIRPaFC (TTI-621) is a decoy CD47 receptor



Blocks suppressive signal
Activates macrophages by binding their Fc receptors
ORR 41% (15/17)
Improvement in lesions not injected

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Petrova et al. 2017
Querfeld et al. 2018

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PEMBROLIZUMAB IN MF/SS

Single agent pembrolizumab has a ORR 38% in advanced stage patients (n=240)

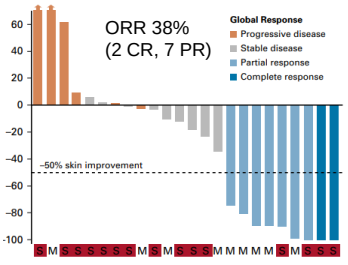
Median duration of response not reached at median follow up 58 weeks (n=24)

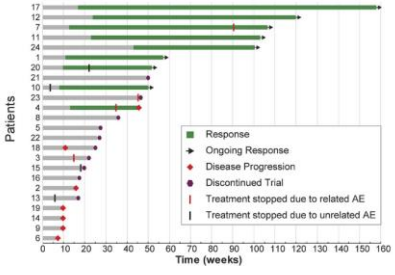
Safety:

40% of patients on CITN10 (pembrolizumab alone) had a skin flare reaction which was believed to be an immune-mediated AE.

Skin flare is clinically indistinguishable from progression

PD1 expression was associated with increased risk of skin flare





Khodadoust et al. *JCO* 2019

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DUVELISIB IN MF/SS

Duvelisib is an oral γ,δ PI3K inhibitor

FDA-approved for CLL and follicular lymphoma at 25mg BID

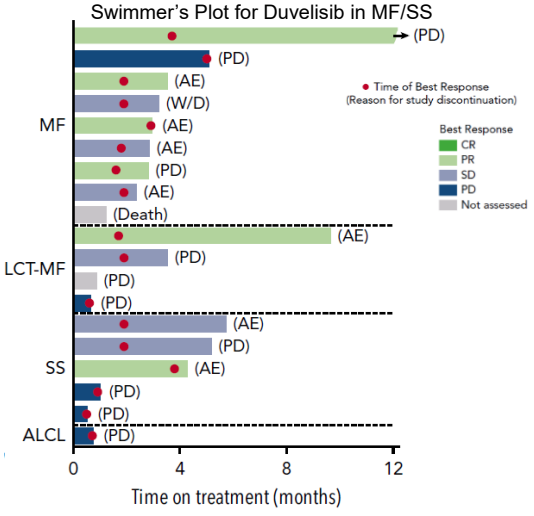
ORR 32% in rel/ref MF/SS (n=19)

In a separate duvelisib combination study in CTCL ORR was 46% (n=26)

Safety:

Treatment interruptions and/or dose reductions most commonly required for AST/ALT elevation, rash, diarrhea, and pyrexia

Neutropenia in 20%. Grade ≥3 infections in 29%



Horwitz et al. 2018. *Blood* 131(8).

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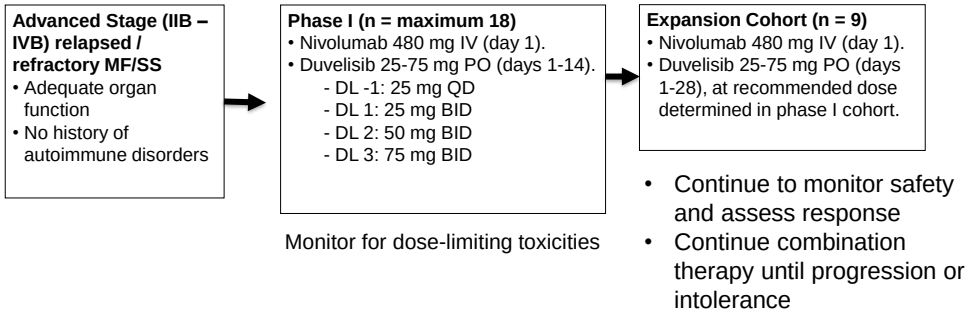
A PHASE 1 STUDY WITH AN EXPANSION COHORT OF DUVELISIB AND NIVOLUMAB IN RELAPSED / REFRACTORY MYCOSIS FUNGOIDES (MF) AND SÉZARY SYNDROME (SS)



Monitor for dose-limiting toxicities

- Continue to monitor safety and assess response
- Continue combination therapy until progression or intolerance

NCT04652960

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UNTIL RECENTLY, WE HAVE BEEN SEARCHING IN DARKNESS

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UNTIL RECENTLY, WE HAVE BEEN SEARCHING IN DARKNESS

…but we are starting to shed light on these rare diseases

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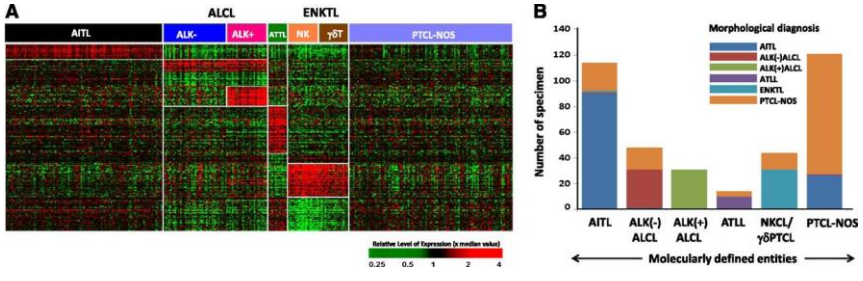
GENE EXPRESSION SIGNATURES CHARACTERIZE DISEASE BIOLOGY

Gene expression profiles of 372 patients show subtypes have distinct gene expression profiles



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Iqbal *Blood* 2019

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ONGOING EFFORTS TO ARTICULATE THE BIOLOGY OF PTCL

Continued effort to sequence 500 cases of PTCL internationally in collaboration with the NCI

International T-cell lymphoma registry with clinical data and biobank including cfDNA

Carefully designed trials with on study biopsies and thoughtful correlatives

Use of imaging mass spectrometry to better understand disease biology and mechanisms of response/resistance

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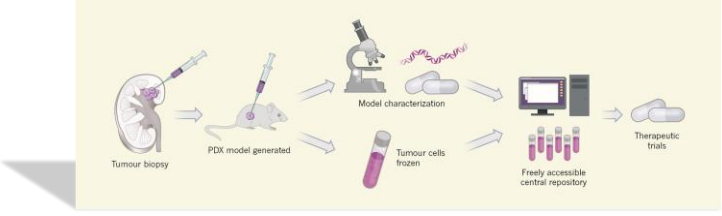
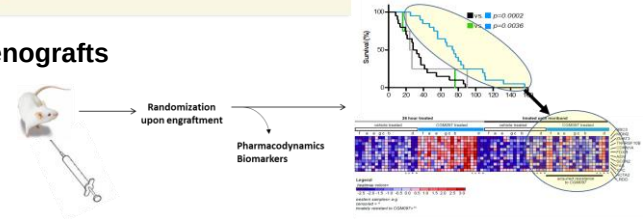
PATIENT DERIVED XENOGRAFTS IN T-CELL LYMPHOMA



Public Repository of Xenografts (www.PRoXe.org)



56 Courtesy of David Weinstock

Murakami and Weinstock, *Nature* 2017; Townsent et al *Cancer Cell* 2016

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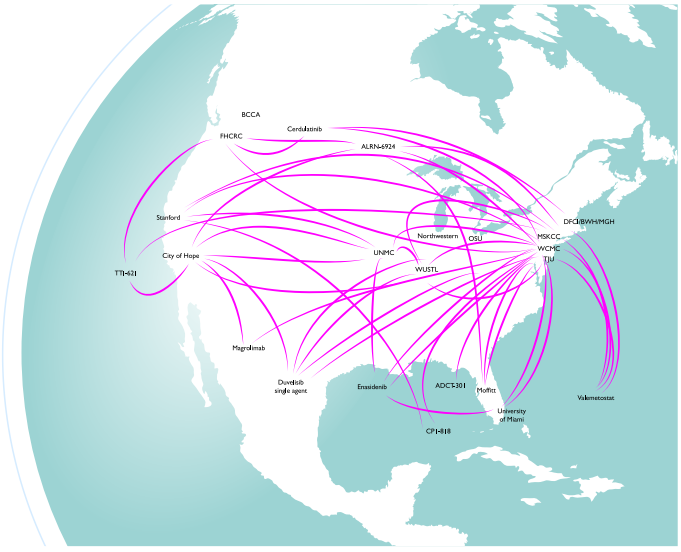
…BUT IT TAKES TEAM SCIENCE



57 Courtesy of David Weinstock

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WHAT CAN I DO TO ADVOCATE FOR MYSELF AND OTHERS?

Be Informed

The Leukemia & Lymphoma Society has fantastic resources

Talk to others about your lymphoma

Consider clinical trials

Support research

Be active in the community, support groups

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THANK YOU!

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ASK A QUESTION

SPOTLIGHT ON T-CELL LYMPHOMA

Ask a question by phone:

Press star (*) 1 on your keypad to ask a question
To remove your question press star (*) 2 on your keypad

Ask a question by web:

Type your question in the “Ask a question” box under the speaker video window

Due to time constraints, we can only take one question per person.
Once you’ve asked your question, the operator will transfer you back into the audience line.

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LLS EDUCATION & SUPPORT RESOURCES

HOW TO CONTACT US:

To contact an **Information Specialist** about disease, treatment and support information, resources and clinical trials:

Call: (800) 955-4572
Monday to Friday, 9 a.m. to 9 p.m. ET

Chat live online: www.LLS.org/InformationSpecialist
Monday to Friday, 10 a.m. to 7 p.m. ET

Email: www.LLS.org/ContactUs

CLINICAL TRIAL SUPPORT CENTER
Work one-on-one with an LLS Clinical Trial Nurse Navigator who will help you find clinical trials and personally assist you throughout the entire clinical-trial process.
www.LLS.org/Navigation

NUTRITION CONSULTATIONS
Our registered dietitian has expertise in oncology nutrition and provides free one-on-one consultations by phone or email.
www.LLSNutrition.org

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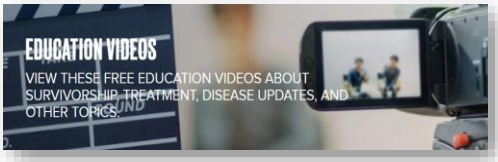
LLS EDUCATION & SUPPORT RESOURCES

Online Chats

Online Chats are free, live sessions, moderated by oncology social workers. To register for one of the chats below, or for more information, please visit **www.LLS.org/Chat**.



Education Videos

View our free education videos on disease, treatment, and survivorship. To view all patient videos, please visit **www.LLS.org/EducationVideos**.

Patient Podcast

The Bloodline with LLS is here to remind you that after a diagnosis comes hope. To listen to an episode, please visit **www.TheBloodline.org**.

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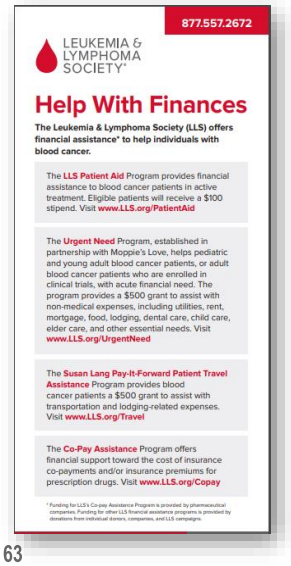
LLS EDUCATION & SUPPORT RESOURCES



The Leukemia & Lymphoma Society (LLS) offers the following financial assistance programs to help individuals with blood cancers:
www.LLS.org/Finances

To order free materials: **www.LLS.org/Booklets**

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THANK YOU

This program is supported by

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Please complete our program evaluation

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We have one goal: A world without blood cancers

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