Abstract: P1154

Title: DEFINITION AND USE OF BULKY DISEASE IN LYMPHOMA CARE: A STUDY FROM THE AUSTRALASIAN LYMPHOMA AND RELATED DISEASES REGISTRY (LARDR)

Abstract Type: Poster Presentation

Topic: Aggressive Non-Hodgkin lymphoma - Clinical

Background:

In lymphoma, the term "bulky disease" ('bulk') refers to a large tumour site, used conventionally in the context of prognostication and treatment decisions. However, evidence for the utility of bulk is lacking and its prognostic value in survival outcomes is unclear in the modern era of positron emission tomography (PET) imaging. Here we report the characteristics and outcomes of Australian and New Zealand lymphoma patients (pts) according to the presence of bulk.

Aims:

To describe the characteristics of pts with disease bulk, treatment patterns and outcomes in key lymphoma types.

Methods:

This LaRDR registry study included pts ≥18 years with newly diagnosed diffuse large B-cell, follicular, marginal zone, peripheral T-cell, Hodgkin, and Burkitt lymphomas (DLBCL, FL, MZL, TCL, HL, BL). LaRDR collects the presence of bulk in a binary yes/no variable, defined by a lesion of minimum of 5cm, across all disease subtypes. Demographics, presence and dimension of bulk, laboratory results, staging, nodal and extranodal involvement, treatment intensity (low, standard, high) and outcomes were analysed using descriptive statistics and Kaplan-Meier method for progression-free survival (PFS) and overall survival (OS) according to the presence of bulk. Risk scores for the revised International Prognostic Index (R-IPI) and FLIPI were derived from the collected variables.

Results:

4271 pts (DLBCL 43%, FL 23%, MZL 10%, TCL 7%, HL 15%, BL 2%; Table 1) were identified between 2016–24. Tumour bulk was present in 27% of pts. Their median age was 63y, 60% were male, 69% had stage III-IV disease, 58% had elevated lactate dehydrogenase (LDH), and 35% had B symptoms. 87% of bulk cases had maximum dimension reported, with median 9 cm.

DLBCL pts with bulky disease were more likely to be at advanced stage ($p=0.001$), with B symptoms ($p<0.001$) and elevated LDH ($p<0.001$), and higher R-IPI score ($p<0.001$) than those without bulk. Bulky FL pts were more likely to be male ($p=0.012$), at advanced stage ($p<0.001$), have elevated LDH ($p=0.004$), B symptoms ($p<0.001$) and higher FLIPI score ($p<0.001$). MZL and TCL pts with bulky disease were more likely to be at advanced stage ($p=0.002$, $p=0.013$) with B symptoms ($p=0.031$, $p=0.026$). HL pts with bulky disease were more likely to be younger ($p<0.001$). No difference in BL pt characteristics was observed according to bulk.

Pts with bulky disease in our cohort were more likely to receive chemotherapy, including access via trials (84% vs. 79%), with consolidation radiotherapy (12% vs. 11%), but less likely to have local treatment alone, including radiotherapy and/or excision (4% vs. 10%), compared to pts without bulk ($p<0.001$). Chemotherapy protocol intensity was not associated with the presence of bulk in any subtype.

Compared to those without bulk, presence of bulk had marginal difference in PFS for DLBCL (HR=1.22, 95%CI=1.00-1.47, $p=0.05$), but not other subtypes (Table 1). Inferior OS was detected in bulky DLBCL ($p=0.04$) and MZL (0=0.04). Interestingly bulk was associated with superior OS in HL ($p=0.03$), (Table 1). No survival differences were observed in other subtypes and median PFS or OS were not reached for any.

Summary/Conclusion:

To our knowledge this is the first registry study to present a detailed analysis of tumour bulk in lymphoma, including influence on treatment decisions and prognostic value. We observed survival differences between bulky and non-bulky DLBCL, MZL and HL pts. Our study provides real-world evidence of less use of radiotherapy in bulky pts in the PET era. Further studies should focus on evaluating the utility of bulky disease in a long-term study.

Table 1 Pt characteristics and survival outcomes according to presence of bulk in each disease subtype.

	All patients		DLBCL		FL		MZL		TCL		HL		BL	
N evaluable	4271		1823		1000		406		300		666		76	
Bulk														
No (%)	2551 (60)		990 (54)		641 (64)		283 (70)		217 (72)		371 (56)		49 (65)	
Yes (%)	1141 (27)		574 (32)		248 (25)		52 (13)		40 (13)		204 (30)		23 (30)	
Unknown (%)	579 (13)		259 (14)		111 (11)		71 (17)		43 (15)		91 (14)		4 (5)	
Bulk yes/no	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
	2551	1141	990	574	641	248	283	52	217	40	371	204	49	23
Median age (range)	**65 (18-103)**	**63 (18-99)**	69 (20-103)	69 (24-99)	65 (25-91)	65 (34-98)	67 (32-96)	69 (39-90)	63 (19-93)	58 (24-87)	**41 (18-93)**	**31 (18-88)**	50 (19-82)	56 (18-88)
Male sex (%)	**1406 (55)**	**685 (60)**	553 (56)	343 (60)	**333 (52)**	**152 (61)**	129 (46)	30 (58)	136 (63)	29 (73)	215 (58)	113 (55)	40 (82)	18 (78)
Stage III-IV (%)	**1410 (60)**	**744 (69)**	**582 (63)**	**388 (71)**	**383 (63)**	**189 (79)**	**105 (46)**	**32 (71)**	**129 (71)**	**31 (91)**	186 (51)	90 (45)	25 (61)	14 (70)
Elevated LDH (%)	**846 (40)**	**596 (58)**	**441 (53)**	**382 (72)**	**107 (20)**	**66 (30)**	63 (29)	11 (28)	111 (61)	27 (75)	-	-	29 (63)	17 (81)
B symptoms (%)	**582 (24)**	**386 (35)**	**239 (26)**	**189 (34)**	**84 (14)**	**64 (26)**	**37 (14)**	**13 (27)**	**81 (40)**	**21 (60)**	129 (36)	90 (45)	12 (26)	9 (43)
Extranodal involvement (%)	1485 (58)	705 (62)	774 (68)	410 (71)	268 (42)	133 (54)	212 (75)	37 (71)	153 (71)	28 (70)	142 (38)	82 (39)	36 (74)	17 (74)
PFS (95% CI)		1.04 (0.90 – 1.20)		**1.22 (1.00 – 1.47)**		0.90 (0.63 – 1.31)		1.24 (0.59 – 2.60)		1.18 (0.76 – 1.83)		0.81 (0.49 – 1.34)		1.87 (0.61 – 5.75)
OS (95% CI)		1.12 (0.96 – 1.30)		**1.22 (1.01 – 1.49)**		0.94 (0.6 – 1.46)		**2.12 (1.02 – 4.41)**		1.0 (0.63 – 1.59)		**0.35 (0.13 – 0.93)**		1.70 (0.54 – 5.35)

Bold font denotes statistically significant difference ($p \leq 0.05$).

Keywords: T cell lymphoma, Hodgkin's lymphoma, B cell lymphoma