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Real-world treatment pathways of patients with diffuse large B-cell lymphoma receiving second line treatment or later in the UK, Canada, France, Germany, Italy and Spain: a prospective survey of physicians

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- Non-Hodgkin lymphoma (NHL) is the most common haematological malignancy globally, accounting for approximately 3% of cancer diagnoses as well as deaths[1]. Diffuse large B-cell lymphoma (DLBCL) is the most common type of lymphoma, representing up to ~40% of all NHL cases[2,3,4].
- R-CHOP has been considered the standard of care for DLBCL first line (1L) treatment for decades[5]. For patients that become relapsed/refractory (r/r) following 1L treatment, second line (2L) treatment usually consists of salvage chemotherapy followed by high-dose therapy (HDT) and Stem Cell Transplant (SCT)[6] for those who are fit enough to endure the aggressive treatment.
- Failing this, treatment at third line or later (3L+) now includes chimeric antigen T-cell (CAR-T) therapy, which has been approved in patients with r/r DLBCL after 2 prior lines of therapy[7]. However, research into the specific treatment pathways in 2L or later (2L+) of real-world patients is limited, especially with focus on SCT eligibility.

- To explore treatment pathways of real-world patients with DLBCL within the 2L+ treatment setting.

- Data were drawn from the Adelphi DLBCL II Disease Specific Programme™ (DSP), a point-in-time survey of haematologists, haem-oncologists and medical oncologists and their DLBCL patients between January and May 2021. 215 Physicians in France, Germany, Italy, Spain, the United Kingdom (UK) and Canada were recruited and completed detailed patient record forms (PRFs) providing demographics, clinical characteristics and treatment patterns for their next 6 presenting adult patients with DLBCL who met a predefined quota (1L; n=1, 2L; n=3, 3L+; n=2 at time of data collection). The DSP methodology has been published and validated previously[8,9,10].
- Physician inclusion criteria included:
  - Specialty in Haematology, Haem-Oncology, or Medical Oncology.
  - Seeing >4 DLBCL patients per month at data collection.
  - Personal responsibility for prescribing decisions of DLBCL patients.
- Patient inclusion criteria included:
  - Physician confirmed diagnosis of DLBCL.
  - In receipt of active drug treatment at time of data collection or receiving best supportive care after completing a 2L of therapy.
  - Not involved in a clinical trial at data collection.
- Descriptive statistics were used to describe patient treatment patterns and pathways, statistical comparisons were not used.

Table 1. Physician Demographics

	Physician Characteristics (n=215)
Specialty	
Haematologist	94 (44%)
Haem-Oncologist	104 (48%)
Medical Oncologist	17 (8%)
Country of Practice	
Canada	16 (7%)
France	46 (21%)
Germany	40 (19%)
Italy	40 (19%)
Spain	41 (19%)
United Kingdom	32 (15%)
Primary hospital practice*	
University hospital	81 (56%)
General hospital	53 (37%)
Community hospital	11 (8%)
Specialty of physician predominant hospital (top 3 only)	
Academic Centre	124 (58%)
Community Hospital	63 (29%)
Office based	28 (13%)

*based out of physicians who reported spending >0% time in a hospital setting (n=145)

Table 2. Patient Demographics and Clinical Characteristics by Line of Therapy

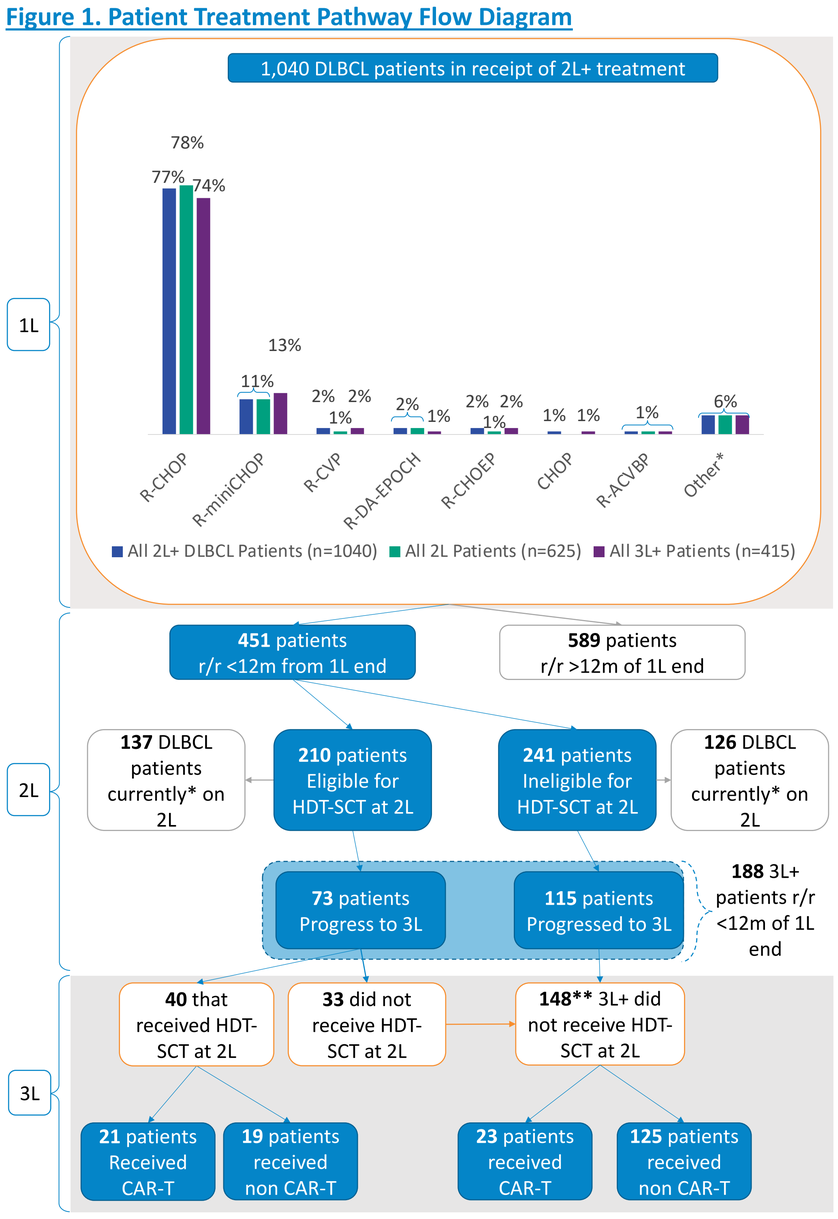
	DSP DLBCL cohort		
	Complete data at 2L (n=625)	Complete data up to 3L and beyond (n=415)	Combined (n=1,040)
Mean Patient Age (SD)	65 (12.7)	68 (12.0)	66 (12.5)
Mean Patient BMI (SD)	24.9 (3.3)	24.6 (3.2)	24.8 (3.3)
Patient Sex, n (%)			
Male	370 (59%)	241 (58%)	611 (59%)
Female	255 (41%)	174 (42%)	429 (41%)
Patient Ethnicity, n (%)			
White/Caucasian	577 (92%)	388 (93%)	965 (93%)
Hispanic/Latino	17 (3%)	8 (2%)	25 (2%)
Other*	31 (5%)	19 (5%)	50 (5%)
Patient ECOG Performance Status, n (%)			
0	131 (21%)	51 (12%)	182 (18%)
1	334 (53%)	167 (40%)	501 (48%)
2	129 (21%)	125 (30%)	254 (24%)
3	25 (4%)	61 (15%)	86 (8%)
4	1 (>1%)	10 (2%)	11 (1%)
Unknown	5 (1%)	1 (>1%)	6 (1%)

BMI; Body Mass Index, DLBCL; Diffuse Large B-Cell Lymphoma, SD; Standard Deviation, 2L; Second line, 3L; Third line

*Other comprises of Native American, Asian-Indian subcontinent, Asian- other, Middle Eastern, Mixed race, Afro-Caribbean and Other- East/South-East Asian

**Other comprises of Student, Unemployed and Furloughed / Government work scheme

Figure 1. Patient Treatment Pathway Flow Diagram



*At time of data collection

**A combination of SCT eligible and ineligible patients who did not receive HDT-SCT at 2L

1L; First Line, 2L; Second line, 3L+; Third line or later, CAR-T; Chimeric Antigen T-Cell, DLBCL; Diffuse Large B-Cell Lymphoma, r/r <12m of 1L end; patients who became relapsed/refractory within 12 months of first line treatment end, SCT; Stem Cell Transplant

Demographics and Clinical Characteristics

- At data collection, 625 patients had complete data up to 2L and 415 patients up to 3L and beyond, resulting in a combined cohort of 1,040 patients with data at least until the 2L.
- The mean age was 66 (SD: 12.5) years and 59% were male. Patients had a mean BMI of 24.8 (SD: 3.3), and 48% of patients had an ECOG performance status of 1. Within the DSP sample, 53% of patients were retired and the majority (95%) had public health insurance (**Table 2**).

First line therapy

- Of the 1,040 patients, the majority received R-CHOP as front line therapy for an average of 6 cycles. (**Figure 1**).
- Despite progressing to 2L treatment, the majority of patients achieved a complete response following 1L completion (n=712, 68%).

Second line therapy – SCT eligibility

- At 2L, 486 (47%) of the 1,040 patients, were described by their physician as eligible for HDT-SCT following relapse. Common criteria considered by physicians when determining patients as eligible for an SCT at time of data collection included: “General health / patient fitness”, “patient age” and “performance status” (**Figure 2**).
- The most common salvage therapy for these patients was R-DHAP or R-ESHAP with 38% and 20% of patients receiving this, respectively.
- For those who were ineligible for HDT-SCT (n=554), the most common regimen at 2L was BR or R-DHAP.

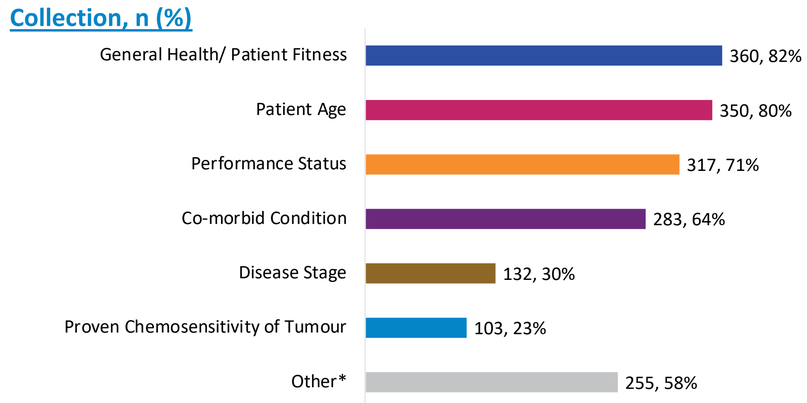
Second line therapy – time to progression

- A total of 451 (43%) of the 1,040 patients were r/r within 12 months of 1L completion with a median time to relapse of 118.0 days (IQR: 30.0-118.0) (**Figure 1**) .
- For those patients who had complete data up to 3L and beyond (n=415), 188 (45%) became r/r <12m of 1L end. Of these, 73 (39%) were eligible for HDT-SCT following initial r/r (**Figure 1**).
  - 40 (54%) went on to receive HDT-SCT at 2L.
  - Despite eventually progressing to 3L treatment, a total of 24 (60%) of patients were reported to have a complete response to HDT-SCT.
  - Of the patients that did not go on to receive HDT-SCT at 2L (n=33), the most common reason for not receiving HDT-SCT at 2L despite prior eligibility was due to the patient’s unacceptable response to 2L salvage chemotherapy.

3rd line therapy

- Of those who received 2L HDT-SCT, and had their third line data recorded, the median time from HDT-SCT to second relapse was 142.5 days (IQR: 86.5-284.5). For these patients, 53% (n=21) received CAR-T therapy at 3L (**Figure 1**).
- For SCT ineligible patients that progressed to 3L (n=148), median time to relapse following 2L treatment was 24.0 days (IQR: 14.8-47.3; n=30). Following this, 23 (16%) patients proceeded to receive CAR-T therapy at 3L (**Figure 1**).
- The full treatment pathways for DLBCL patients who reached 3L+ and became r/r <12m of 1L end, from 1L to 3L treatment, can be seen in **Figure 3**.

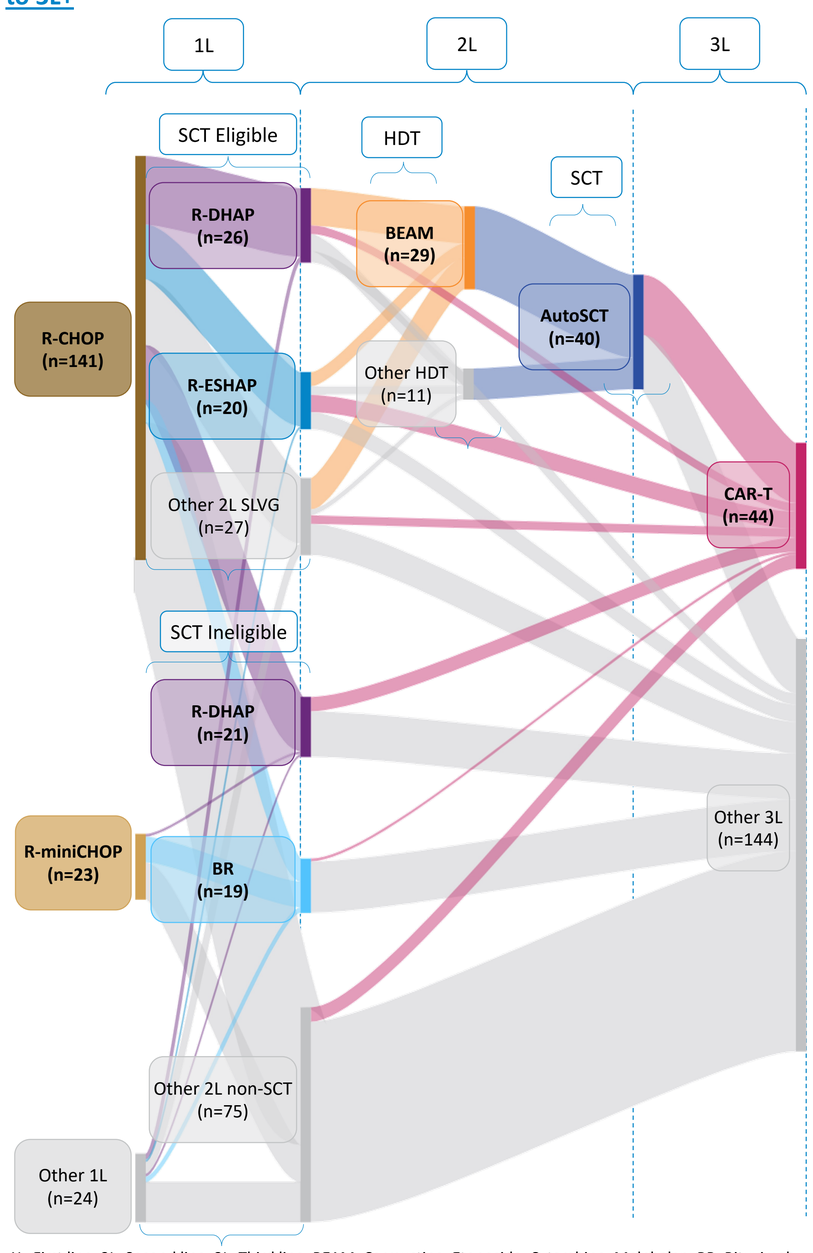
Figure 2. Criteria Used to Determine Patient SCT Eligibility at Data Collection, n (%)



SCT; Stem Cell Transplant

*Other comprises of cardiovascular concern, tumour size, location of distant metastases, patient’s overall wellbeing, biomarker test results, patient’s symptoms, cost of treatment, treatment’s availability on formulary, patient’s quality of life, patient’s wish/request, patient’s suitability for a clinical trial, renal function, lung function, sufficient number of stem cells collected and other

Figure 3. DLBCL Patient Treatment Pathway From 1L to 3L in Patients who were relapsed/refractory <12 months of 1L end and had complete data up to 3L+



1L; First line, 2L; Second line, 3L; Third line, BEAM; Carmustine, Etoposide, Cytarabine, Melphalan, BR; Rituximab and Bendamustine, CAR-T; Chimeric Antigen T-cell, R-CHOP; Rituximab with Cyclophosphamide, Doxorubicin, Vincristine and Prednisolone, HDT; High-dosage Therapy, R-DHAP; Rituximab with Dexamethasone, Cytarabine and Cisplatin, R-ESHAP; Rituximab with Etoposide, Methylprednisolone, Cytarabine and Cisplatin, R-miniCHOP; Rituximab with attenuated Cyclophosphamide, Doxorubicin, Vincristine and Prednisolone, SCT; Stem Cell Transplant, SLVG; Salvage Chemotherapy

- For patients that had complete data up to 3L and beyond and became r/r <12m of 1L end, 39% were defined as “eligible” for SCT by clinicians after their initial relapse.
- Of the small proportion of patients who received HDT-SCT in 2L, the median time to relapse was less than 5 months. Over half of these patients went onto receive CAR-T at 3L, these are resource intensive patients.
- Of those that didn’t receive HDT-SCT, most relapsed within a month of completing 2L therapy.
- This highlights a group of patients with primary refractory or early relapse disease for which HDT-SCT is not an option or not curative.
- Due to the design of the study, outcomes are uncertain for those patients in which full follow-up data is not observed.

LIMITATIONS

- Although data is available for a total 1,040 patients, this poster focuses on 415 patients who have completed 2L and progressed to 3L+. As such, the 3L outcomes of remaining patients who are still on 2L cannot be commented on.
- A high proportion of patients in the DLBCL DSP dataset have a white ethnicity ("93% white, 7% non-white") which may not be presentative of the presenting population.

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DISCLOSURES

CS, SV and DK are stockholders of Kite, a Gilead company, Stockley Park, Uxbridge, UK
AB, NM, IS and JB are employees of Adelphi Real World and were paid consultants to Kite Pharma in connection with the development of this poster

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