Lymphoma care in Brunei – challenging cases of common lymphoma

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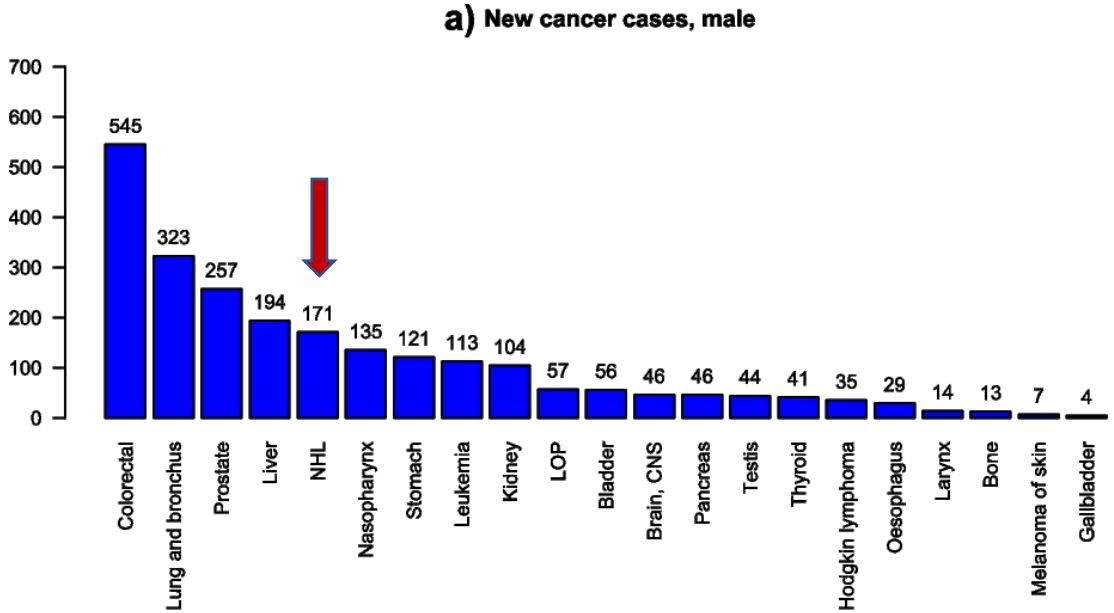
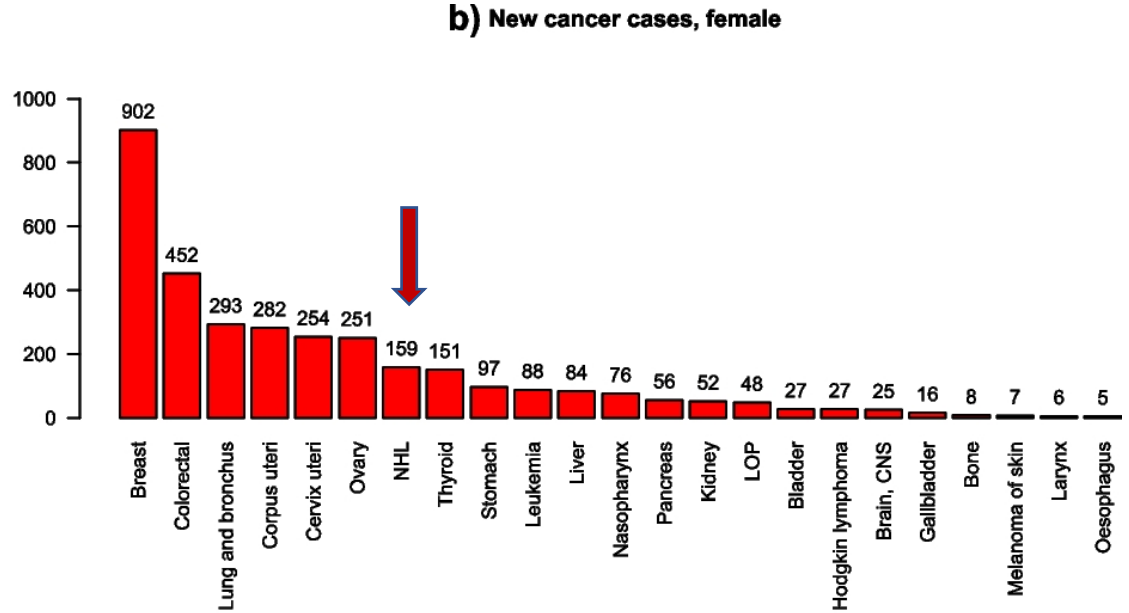
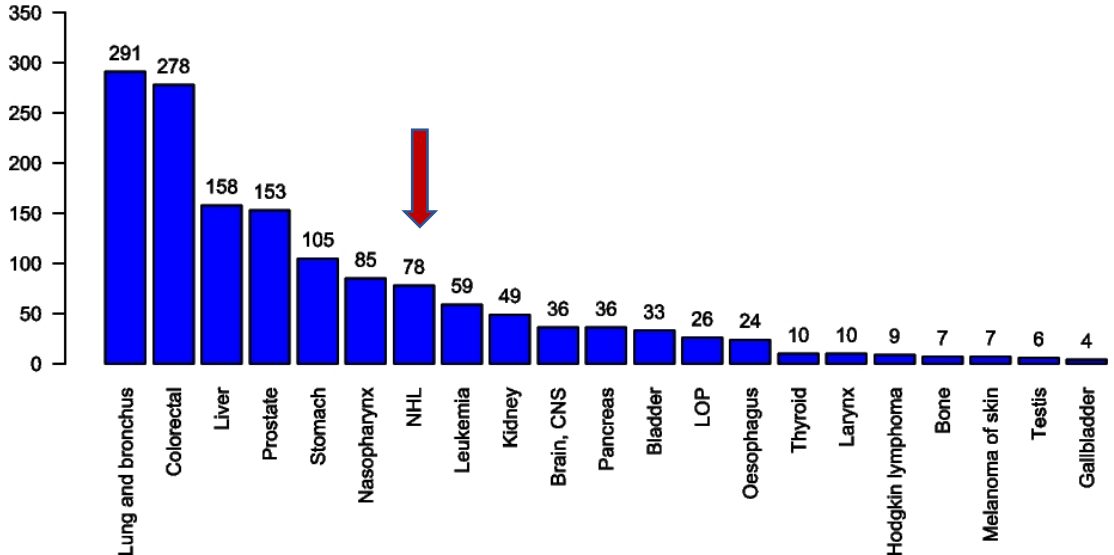
Outline

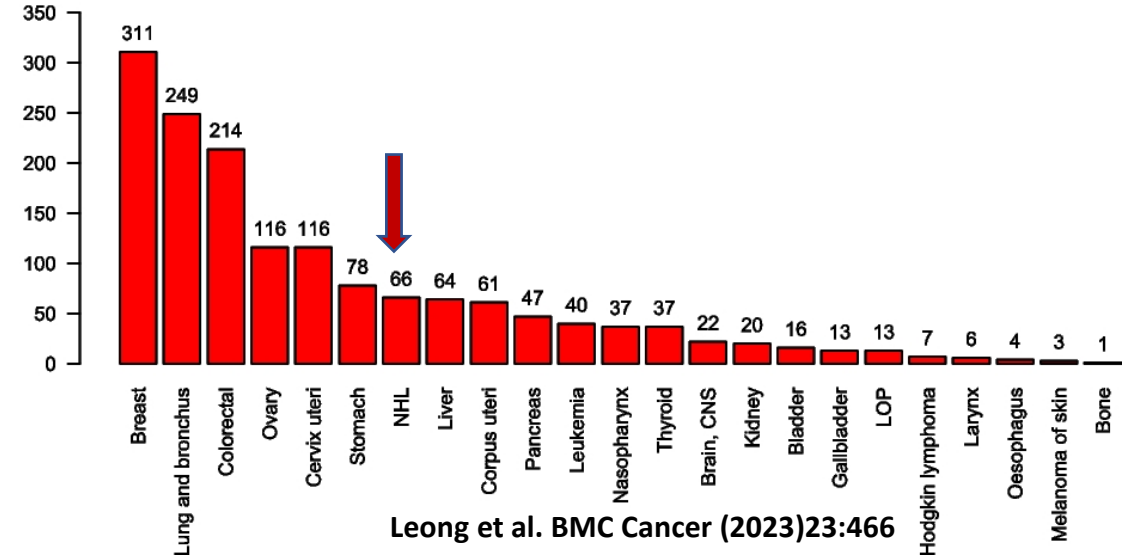
- Review of local lymphoma burden and services in Brunei.
- Present 2 challenging cases of common lymphoma subtypes
- Key learning points and practical management

Cancer incidence and mortality in Brunei Darussalam, 2011 to 2020









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Demographic and clinical characteristics of NHL patients, 2011–2020

Characteristics	No. of Cases	%	No. of Deaths	%
Age At Diagnosis				
0–34	52	15.6	10	7.0
35–54	92	27.6	23	16.2
55–74	141	42.3	72	50.7
75 & above	48	14.4	37	26.1
District				
Brunei-Muara	199	60.3	80	56.3
Tutong	49	14.8	18	12.7
Belait	66	20.0	35	24.6
Temburong	10	3.0	3	2.1
Not known	6	1.8	6	4.2
Ethnicity				
Malay	273	82.7	121	85.2
Chinese	43	13.0	14	9.9
Others	14	4.2	7	4.9
Gender				
Male	171	51.8	76	53.5
Female	159	48.2	66	46.5
Stage				
Localised	41	12.4	14	9.9
Regional	61	18.5	27	19.0
Distant-Metastasis	102	30.9	56	39.4
Unknown	126	38.2	45	31.7
Histology				
FL	13	3.9	2	1.4
DLBCL	129	39.1	48	33.8
BL, NOS	14	4.2	5	3.5
OTHER B-CELL	29	8.8	7	4.9
T-CELL NHL	26	7.9	8	5.6
ML, NOS	119	36.1	72	50.7

Histological subtype

DLBCL -39%

Malignant Lymphoma, NOS – 36.1%

Other B-cell – 8.8%

T cell NHL -7.9%

Follicular lymphoma – 3.9%

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Distribution of histological subtypes by gender, age, ethnicity, and cancer stage, 2011–2020

	Histology						*p*-value
	FL (%)	DLBCL (%)	BL, NOS (%)	OTHER B-CELL (%)	T-CELL NHL (%)	ML, NOS (%)	
Gender							0.082
Male	11(84.6)	59(45.7)	9(64.3)	18(62.1)	14(53.8)	60(50.4)	
Female	2(15.4)	70(54.3)	5(35.7)	11(37.9)	12(46.2)	59(49.6)	
Age							< 0.001*
0–34	3(23.1)	15(11.6)	6(42.9)	3(10.3)	11(42.3)	13(10.9)	
35–54	5(38.5)	31(24.0)	5(35.7)	9(31.0)	8(30.8)	34(28.6)	
55–74	4(30.8)	69(53.5)	1(7.1)	12(41.4)	4(15.4)	49(41.2)	
75 & above	1(7.7)	14(10.9)	2(14.3)	5(17.2)	3(11.5)	23(19.3)	
Ethnicity							0.798
Malay	8(61.5)	106(82.2)	12(85.7)	24(82.8)	23(88.5)	100(84.0)	
Chinese	4(30.8)	17(13.2)	2(14.3)	4(13.8)	2(7.7)	14(11.8)	
Others	1(7.7)	6(4.7)	0(0.0)	1(3.4)	1(3.8)	5(4.2)	
Stage							< 0.002*
Localised	2(15.4)	15(11.6)	0(0.0)	3(10.3)	5(19.2)	16(13.4)	
Regional	2(15.4)	23(17.8)	0(0.0)	4(13.8)	2(7.7)	30(25.2)	
Distant-Metastasis	5(38.5)	30(23.3)	4(28.6)	9(31.0)	6(23.1)	48(40.3)	
Unknown	4(30.8)	61(47.3)	10(71.4)	13(44.8)	13(50.0)	25(21.0)	

1.*FL*: Follicular lymphoma, *DLBCL*: Diffuse large B-cell lymphoma, *BL*, *NOS*: Burkitt lymphoma NOS, *T-Cell NHL*: Non-Hodgkin lymphoma T-cell lymphoma, *ML*, *NOS*: Malignant lymphoma, NOS,
2.*Statistically significant ($p < 0.05$)

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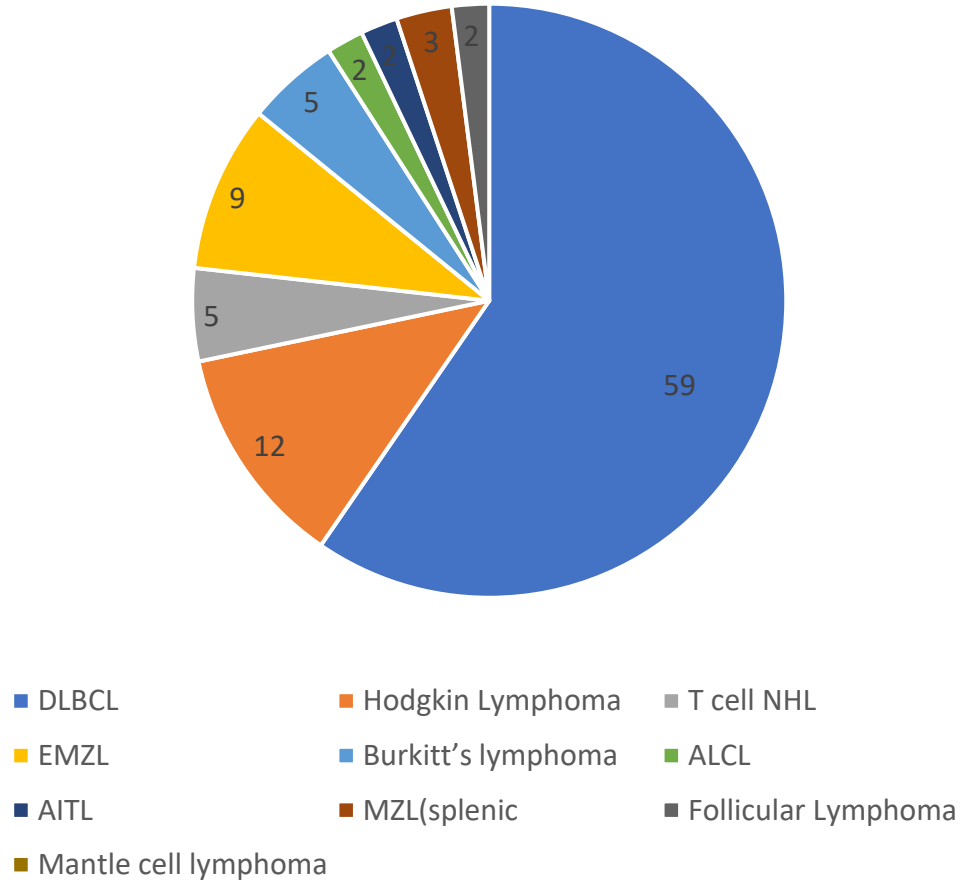
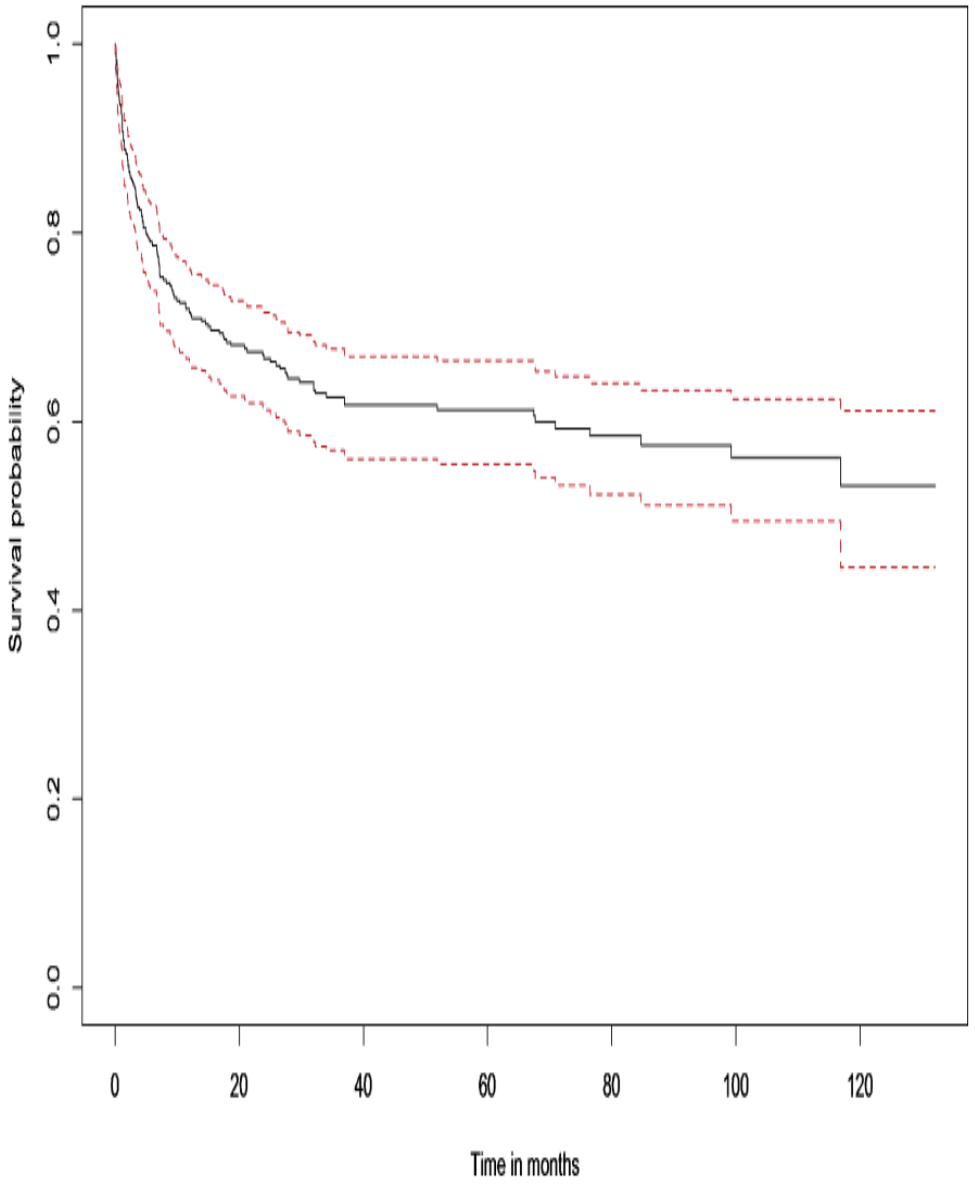
Histological subtypes of lymphoma, 2021-2024 (WHO classification 5th edition)

Histology	No. of cases	%
DLBCL	117	59
Hodgkin Lymphoma	25	12
T cell NHL	10	5
EMZL	18	9
Burkitt's lymphoma	7	5
ALCL	5	2
AITL	5	2
MZL(splenic)	6	3
Follicular Lymphoma	4	2
Mantle cell lymphoma	2	1



Overall survival curves of NHL patients (2011–2020)



1 year Overall survival rate - 71.6%
5 years OS - 61.2 %
10 years OS - 53.2%

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Local care pathway and resources

- Primary care / other specialties(surgery,medical)
- 2 care centres
  - Haematology unit RIPAS hospital
  - TBCC/JPMC oncology
- Available treatments locally
  - Chemotherapy
  - Targeted therapy
  - Radiotherapy
  - Palliative

Care pathway in Brunei

- Suspicion → urgent excisional node biopsy (avoid FNA if lymphoma suspected)
- Baseline work-up
  - Full bloods, LDH, urate; hepatitis B/C/HIV; TB risk assessment
  - CT neck/chest/abdomen/pelvis ± PET/CT
  - Echocardiography if anthracyclines planned;
- Staging & prognostic scores
  - Ann Arbor/Lugano; IPI or NCCN-IPI for DLBCL; IPS for Hodgkin
- MDT discussion
  - Pathology with immunophenotype & molecular panel if feasible
  - Treatment intent: curative vs palliative

Diffuse Large B-Cell Lymphoma (DLBCL): essentials

- First-line: R-CHOP q21 for 6 cycles remains standard in many settings
- R-EPOCH for high Ki 67 or double hit lymphomas
- Consider pola-R-CHP for IPI 2–5 where accessible; weigh benefit vs cost
- CNS risk assessment (CNS-IPI; high-risk sites). Systemic MTX and IT MTX or cytarabine
- Interim response assessment (CT or PET/CT where available)

Classical Hodgkin Lymphoma: essentials

- Early stage favorable: ABVD x2 + involved-site RT (ISRT) where feasible
- Advanced stage: ABVD x6; brentuximab-based regimens for selected high-risk cases
- Bleomycin lung toxicity risk—consider AVD after cycle 2 if PET-adapted unavailable

Follicular Lymphoma: essentials

- Low-tumor burden: watchful waiting; symptomatic/localized— rituximab ± ISRT
- High-tumor burden (GELF): R-CHOP or bendamustine-rituximab where feasible
- Maintenance rituximab— infection risk (HBV reactivation)
- Transformation vigilance: rising LDH, rapid growth, B symptoms

Peripheral T-cell & NK/T lymphomas: essentials

- Subtype matters: PTCL-NOS, AITL, ALCL, extranodal NK/T (nasal type)
- CHOP-like backbones; add etoposide in younger/fitter; L-asparaginase-based for NK/T
- Early transplant referral discussion for eligible patients
- Infection risk, cytopenias; meticulousness supportive care

Case 1

- 28 yrs old female. Army officer. ECOG 0
- D2 post delivery. 1st pregnancy
- c/o 5 weeks history of dry cough and abdominal pain. Clinical examination was suggestive of left pleural effusion.
- Elevated serum amylase -> Acute pancreatitis
- CXR - mediastinal mass with left pleural effusion- need Ct scan for better evaluation
- CT TAP Large anterior mediastinal mass measuring 14.6 (ML) x 8.1 (AP) x 14.7 (SI) cm. Moderate sized left pleural effusion. Diffusely enlarged pancreas containing few hypodense areas possibly necrosis and dilated main pancreatic duct, common bile duct and intrahepatic ducts, likely due to pancreatic head mass / lymph node.

CT guided Bx - DLBCL

Diagnosis: Stage IV DLBCL with high CNS risk (IPI score 3 High Intermediate risk) with left pleural effusion and RANSOM score 2 acute pancreatitis

TREATMENT

1x R-CHOP – resolution of symptoms

Gastroenterology input for acute pancreatitis -> IV stillamine.

5 x DA R-EPOCH and CNS prophylaxis -> remission

1 month post treatment

- Had General Tonic clonic seizure.
- MRI brain -2 LESIONS; a 1.6 x 1 x 1.4 cm lesion in the Right middle frontal gyrus and a 2.1 x 1.0 x 0.9 cm lesion in the Right rectus gyrus.
- Histology showed DLBCL, non-GC subytpe.
- Diagnosis: Secondary CNS relapse.
- TREATMENT
  - Keppra 500mg BD.
  - received 2 doses of high dose MTX (3.5g/m2) and 2 doses of intrathecal methotrexate .
- Developed further seizures
- Repeat MRI brain showed a new enhancing mass in the Right frontal lesion, confirming disease progression in the brain.
- No evidence of disease systemically.
- Keppra dose was increased from 500mg BD to 750mg BD.
- WBRT for control of the seizures, Another seizure at the start of WBRT
- . She received 36Gy of WBRT . and Keppra dose was further increased to 1g BD.
- No further seizure episodes.
- Started on De Angelis treatment protocol
- Lenalidomide maintenance – after discussion and consent from patient (risk of teratogenicity in women of child bearing age).
- Pregnancy prevention program.
- Repeat MRI - no disease recurrence and In remission
- Annual MRI surveillance follow up

CASE 2

- 69 yr old female
- ECOG 0
- Referred for pancytopenia, splenomegaly and weight loss for 7 months
- CT TAP in 10/2024 - reported as splenomegaly
- Left inguinal lymph node biopsy - reported as Mixed cellularity classical Hodgkin lymphoma .
- PET CT scan and CT TAP - splenomegaly (reactive on PET scan) and abdominal lymphadenopathy, pre-vertebral, para-aortic, aorto-caval, splenic hilum, bilateral common iliac, left external iliac, left pelvic w=wall and left inguinal region.
- Bone marrow flow and aspirate - suggestive of lymphoma involvement - 26.1% CD3+/CD5+T cells with a normal CD4:CD8 ratio and few CD56+ NK cells.

Case 2

- Diagnosis: Stage IV mixed cellularity classical Hodgkin lymphoma (splenic and marrow involvement).
  IPI score - Age >35, Stage IV, Hb <10.5g/l.
- Hepatitis B carrier on Tenofovir
- Received #1 Brentuximab+ AVD
- CT scan post cycle 1- show regression of lymph nodes size and reduction spleen size.

Case 2

- Pathology interdepartmental review- in view of raised concerns regarding the bone marrow findings and flow and background of lymphoid population representing composite lymphoma in the lymph node biopsy. Specimen was sent to SGH for second expert opinion.
- Diagnosis was revised to : PTCL consistent with Follicular helper subtype, complicated by secondary proliferation of EBV negative Hodgkin Reed Stenberg (HRS) –like cells.
- Treatment was changed to CHOP
- Interim CT scan after 3 cycles of CHOP – disease remission
- Plan: 5 cycles of CHOP. Not eligible for AutoSCT.
- Surveillance with CT/ PET CT scan

Take home messages

- Get tissue right the first time; MDT early; stage with what you have
- Treat with curative intent where appropriate; adapt safely to resources

Thank you