

EBV IN T CELL LYMPHOMA – A WOLF IN SHEEP'S CLOTHING?

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2nd year

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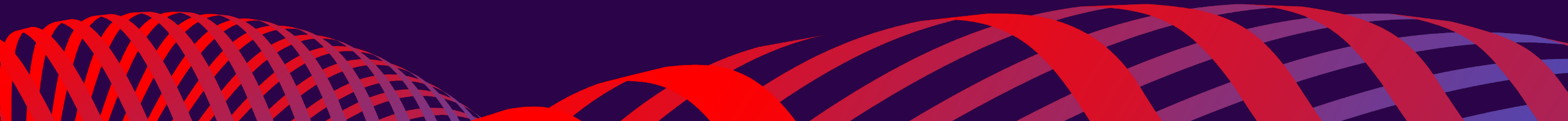
2nd year

University Hospital Galway



INITIAL PRESENTATION

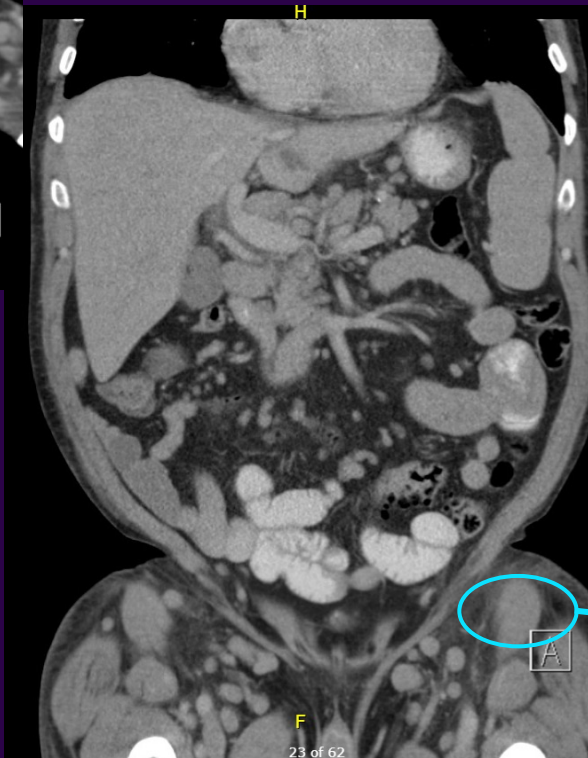
- 65 year old
- **Presented** to peripheral hospital in October 2023
 - Fevers
 - 10kg weight loss
 - Shortness of breath
 - Night sweats
- **BG Hx:** Non-contributory
- **Examination** – widespread lymphadenopathy, splenomegaly
- **Bloods**
 - FBC – unremarkable
 - Mildly deranged LFTs
 - LDH 432 u/L , B2M 9.12 mg/L , CRP 46 mg/L
 - Viral serology - EBV EBNA IgG +, HBV/HCV -, CMV – (IgG/IgM), HIV –

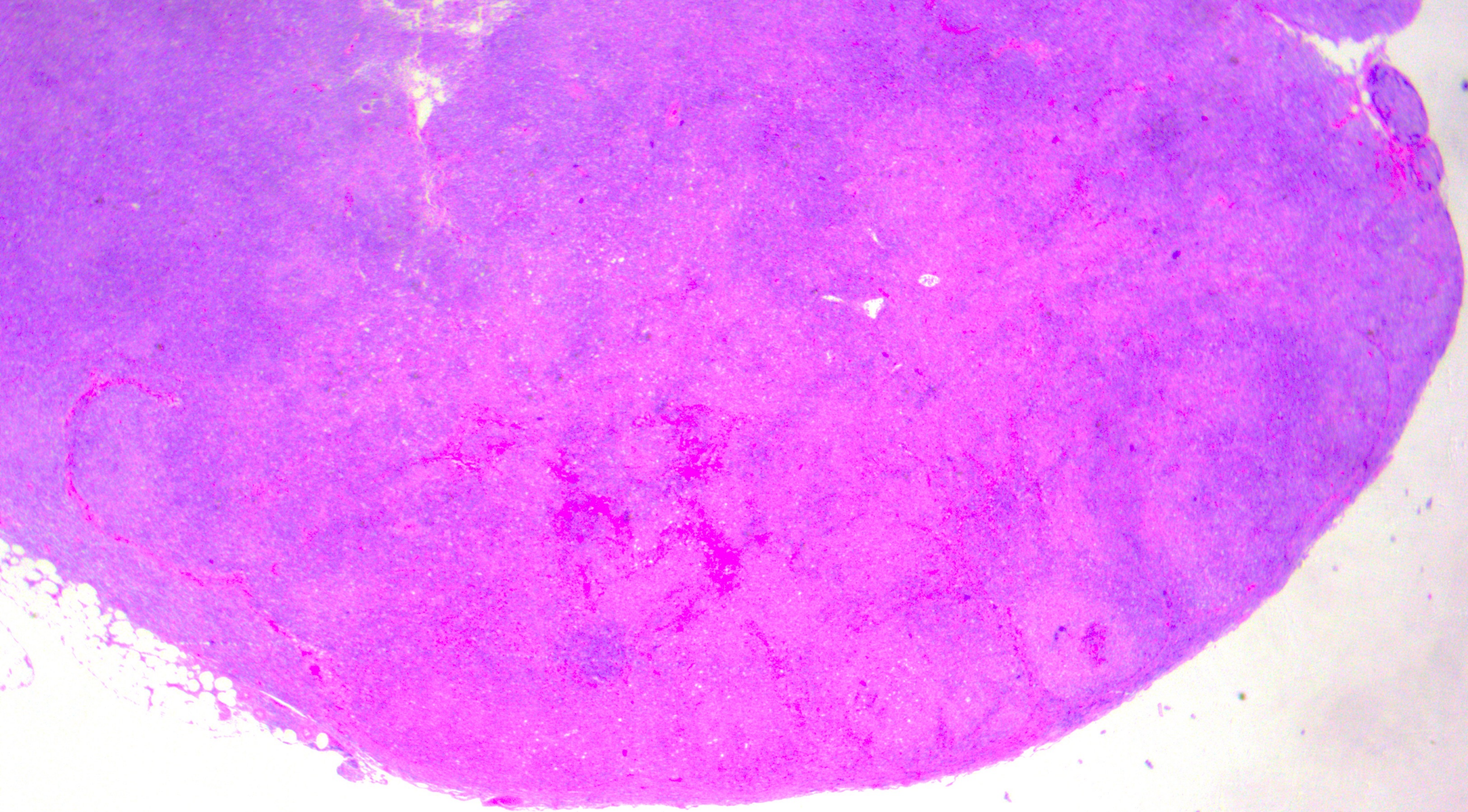


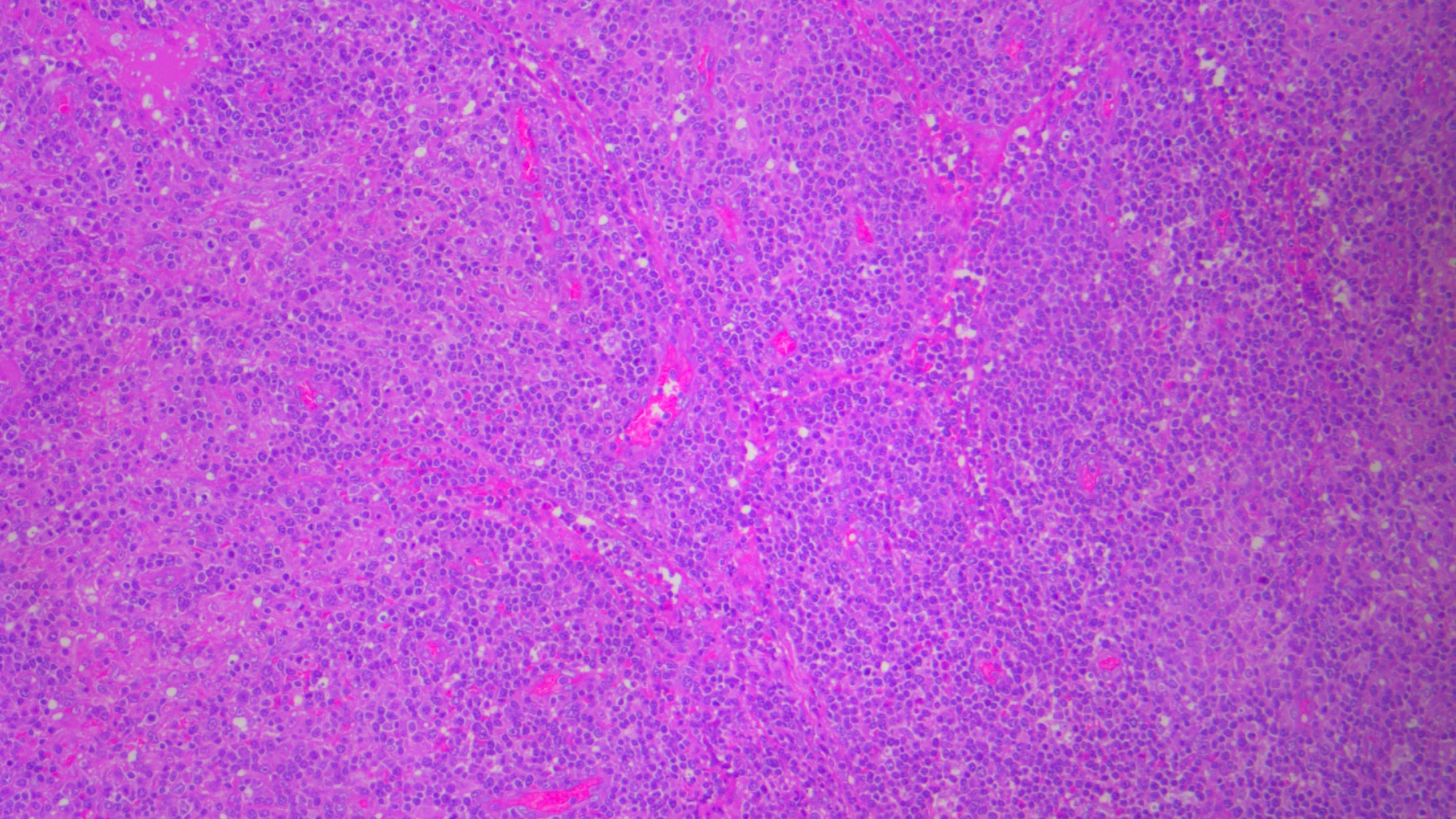
KEY INITIAL INVESTIGATIONS

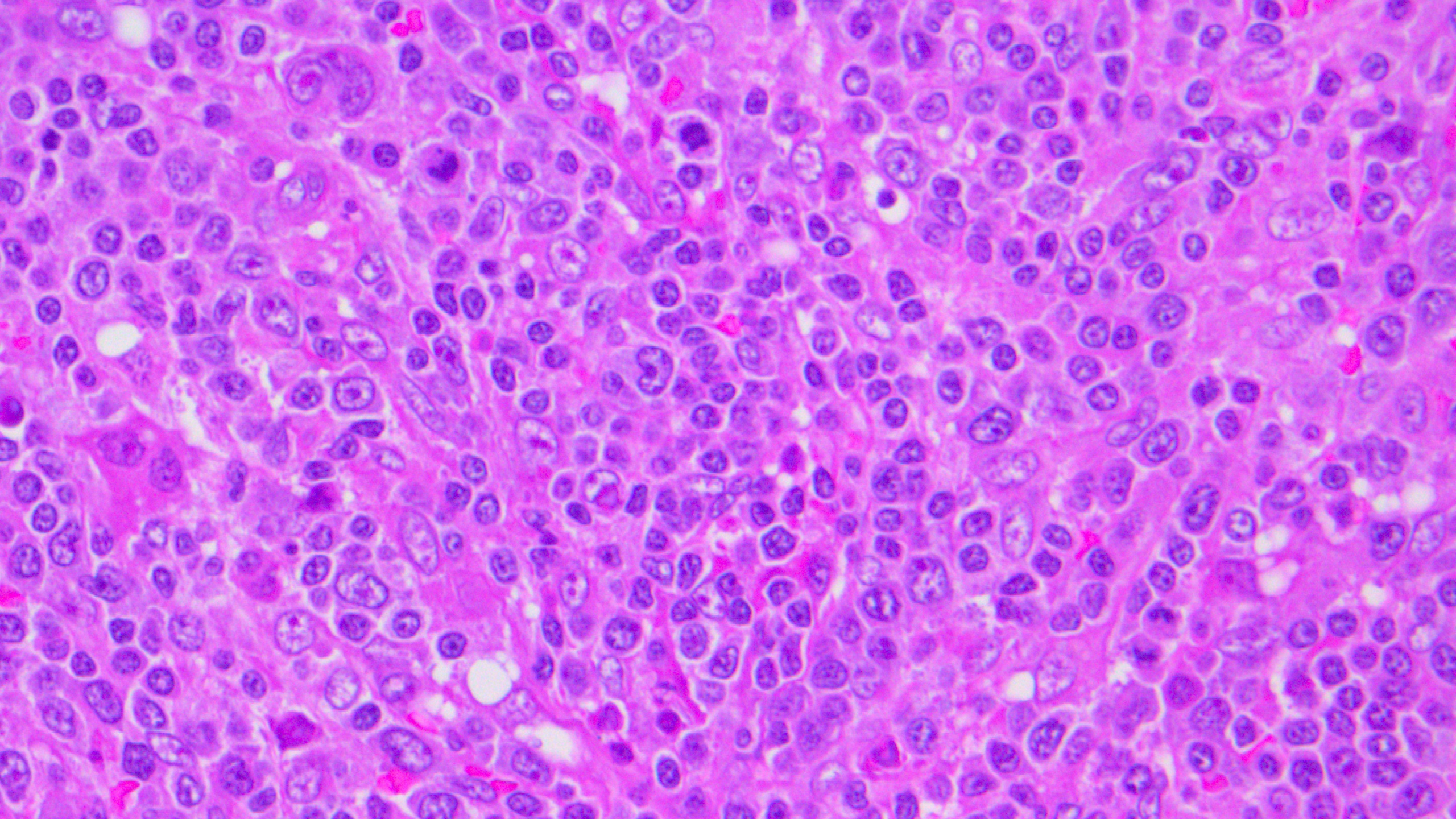


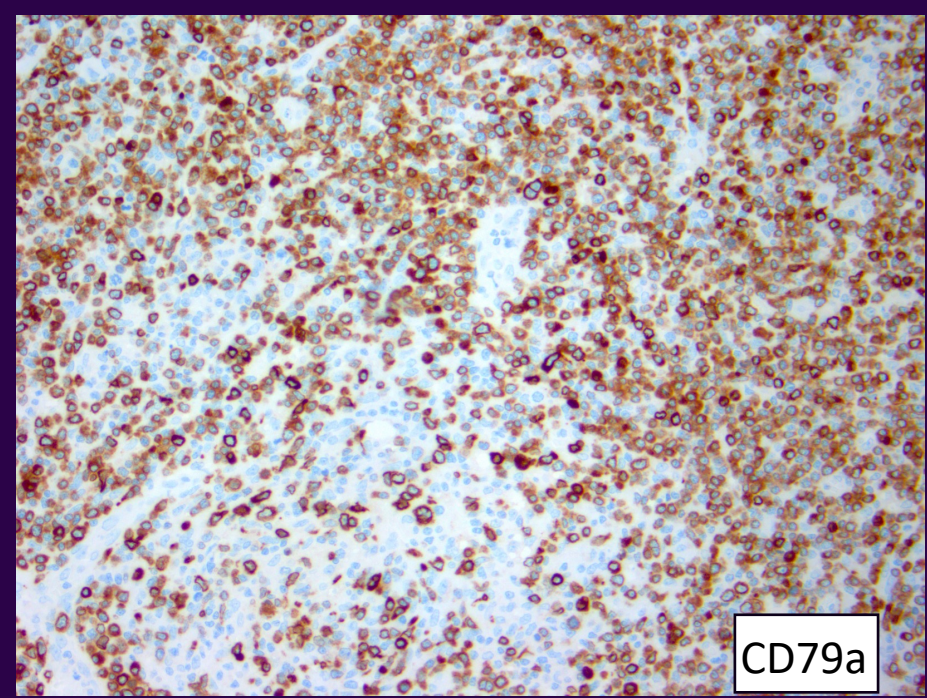
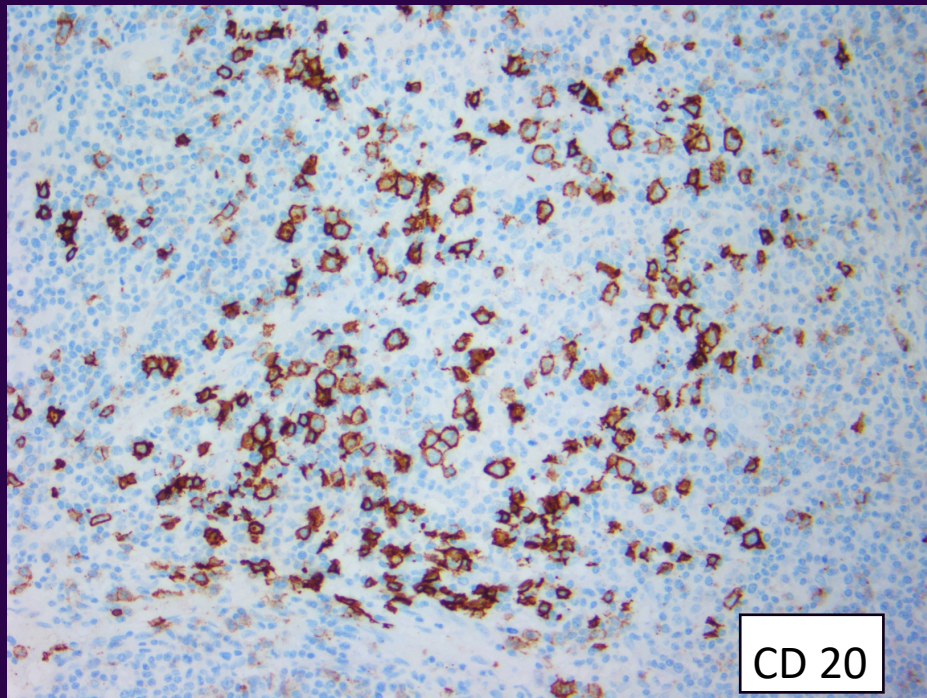
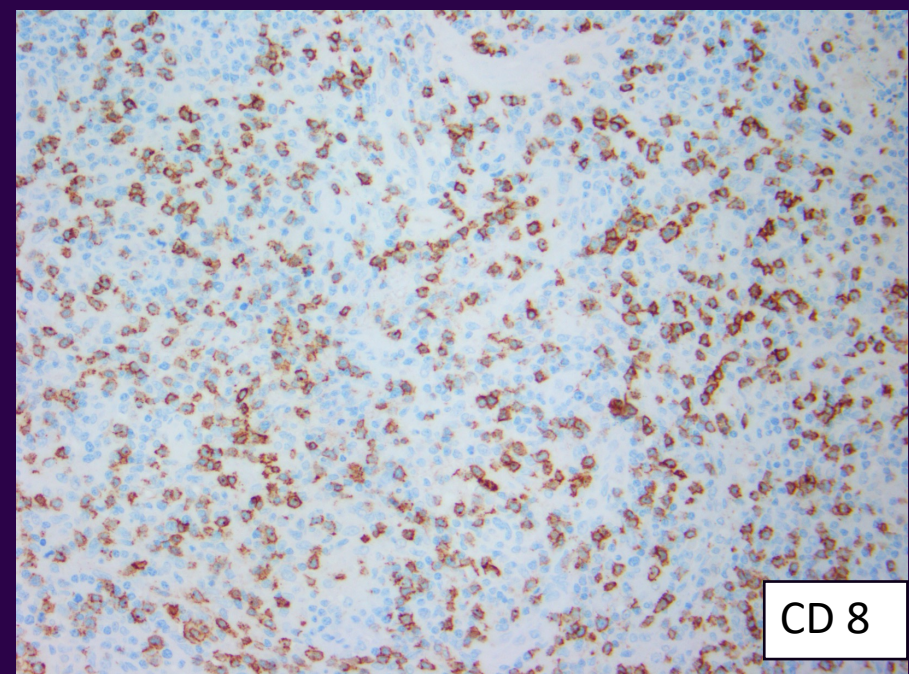
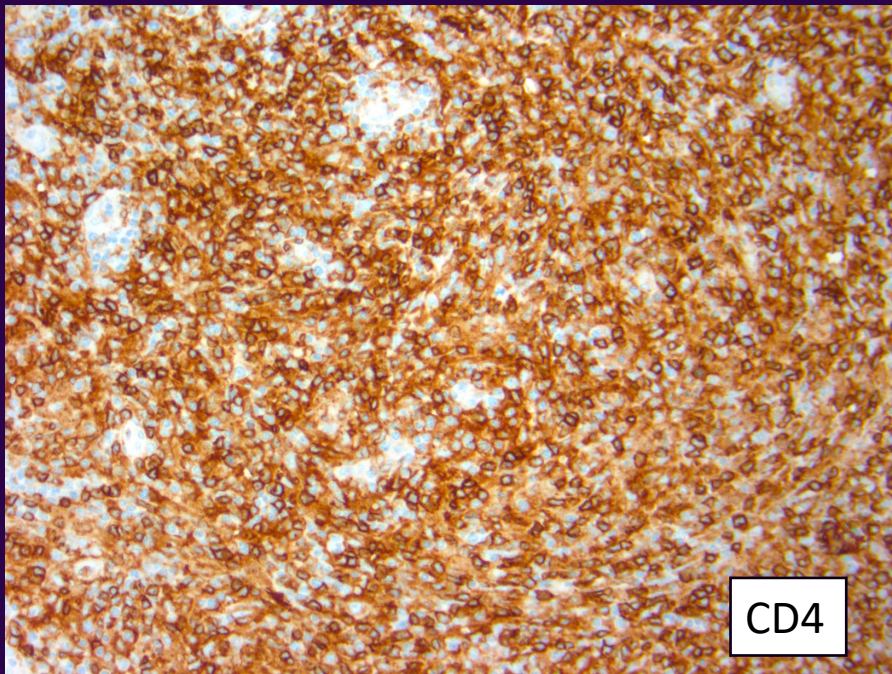
November
2023

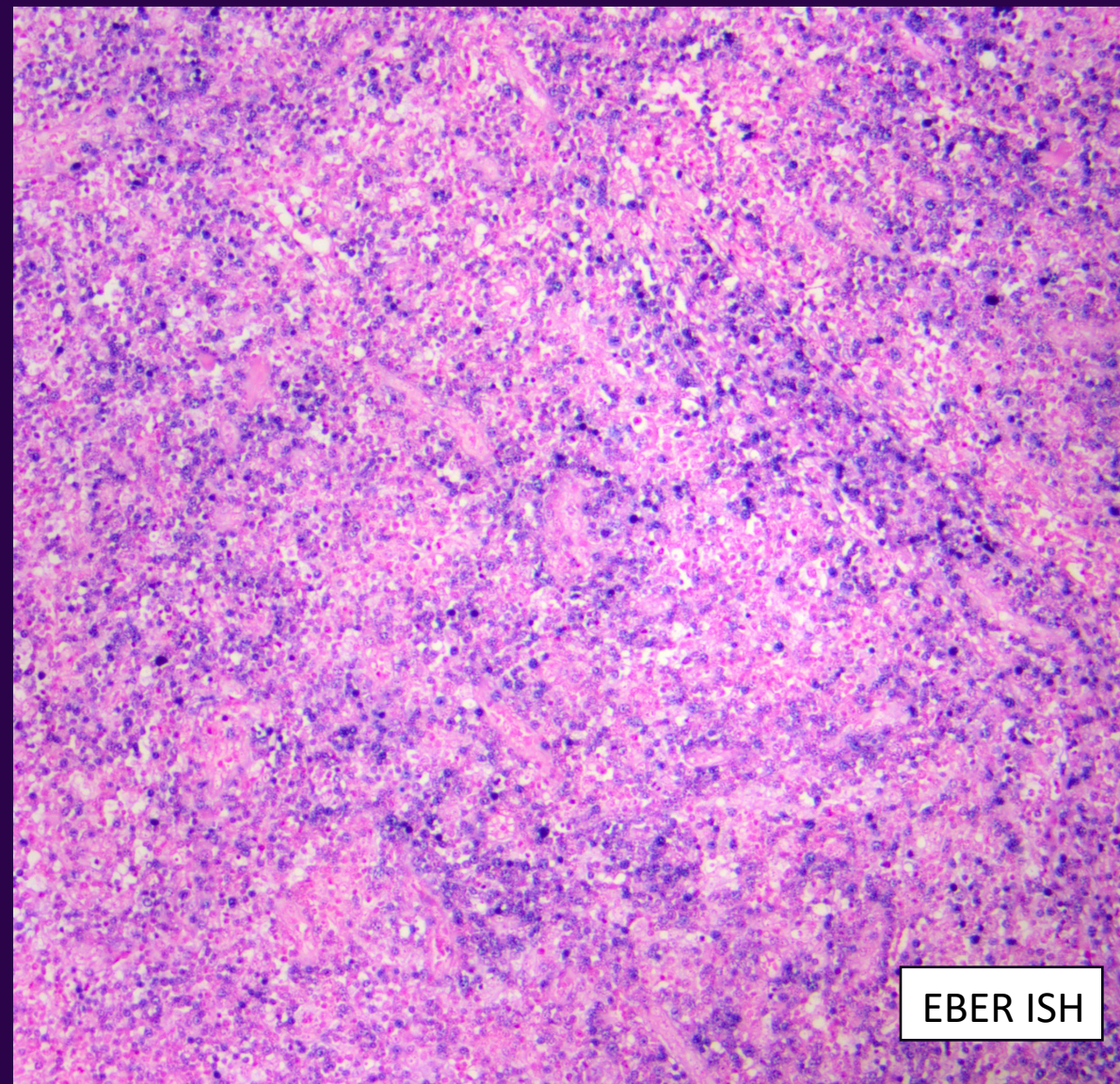
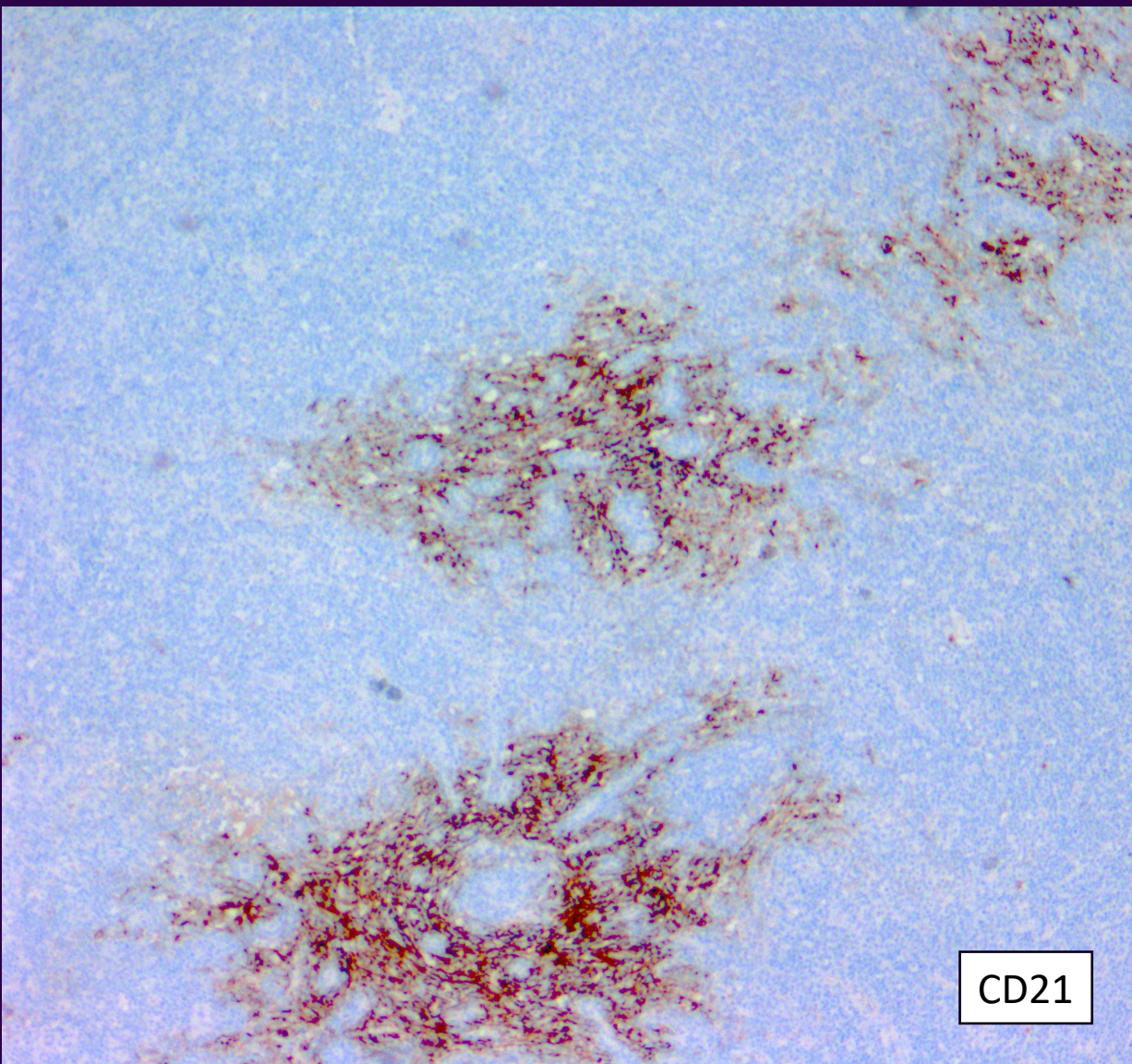














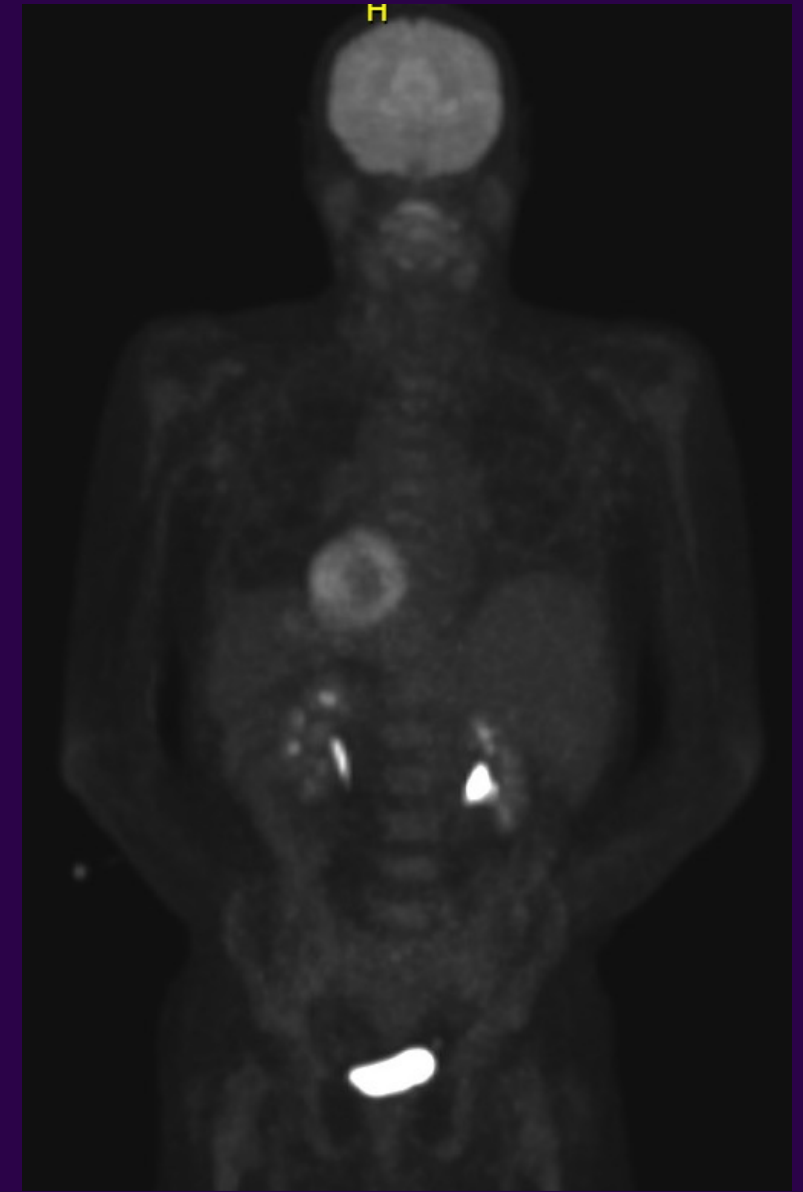
LIKELY DIAGNOSIS?

Polymorphic variant of EBV positive DLBCL

Background T cell lymphoma, warrants exclusion

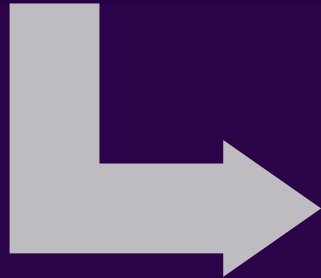
FURTHER DEVELOPMENTS

- Referred to our hospital and seen in OPD 3 weeks later
- PET-CT performed prior to OPD showed **complete resolution of adenopathy**
- Normalisation of LDH, AST, ALT
- Clinically, no evidence of lymphadenopathy
- Plan - surveillance imaging in 3 months



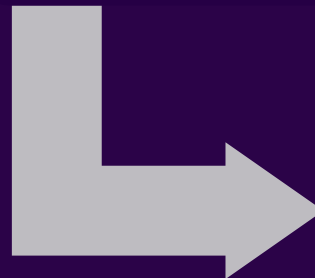
Widespread
lymphadenopathy,
splenomegaly, B
symptoms

- ? EBV positive DLBCL
- T cell lymphoma to be
outruled



Resolution of
symptoms and
adenopathy

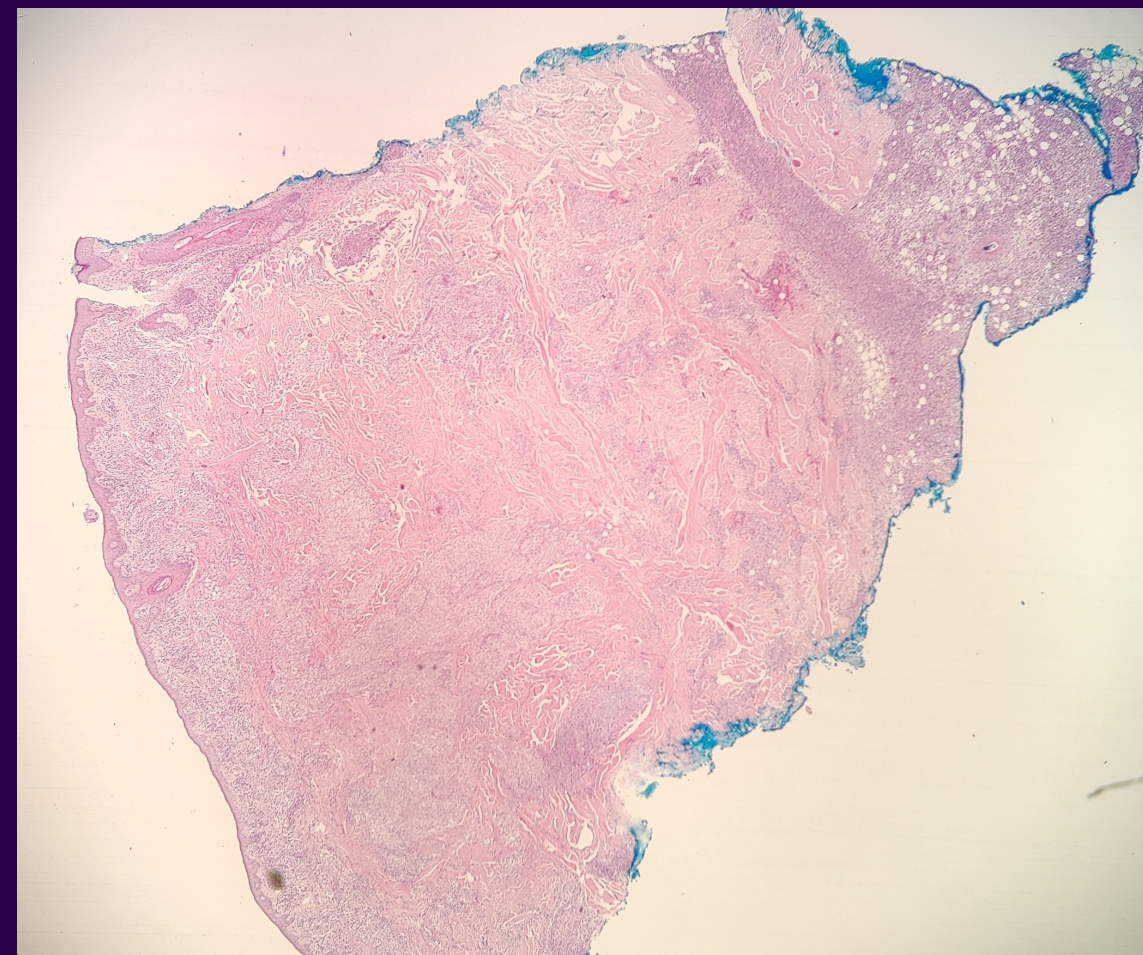
- ? infectious
mononucleosis
- Close follow up advised



Clonality testing
awaited
**External opinion
requested**

RE-PRESENTATION

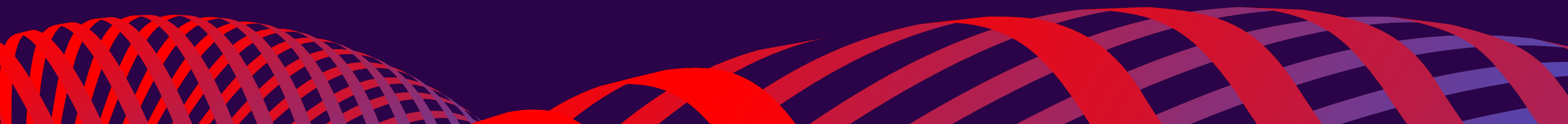
- February 2024 (3 months since PET-CT)
 - Readmitted in T1RF, requiring NIV
 - Widespread rash
 - Deranged LFTs
 - Nodular consolidation in lungs, recurrence of mediastinal lymphadenopathy and multiple hypoattenuating liver lesions on imaging
- Liver and skin biopsies performed
- EBV DNA 177,992 copy/mL (Log 5.3) Feb 2024



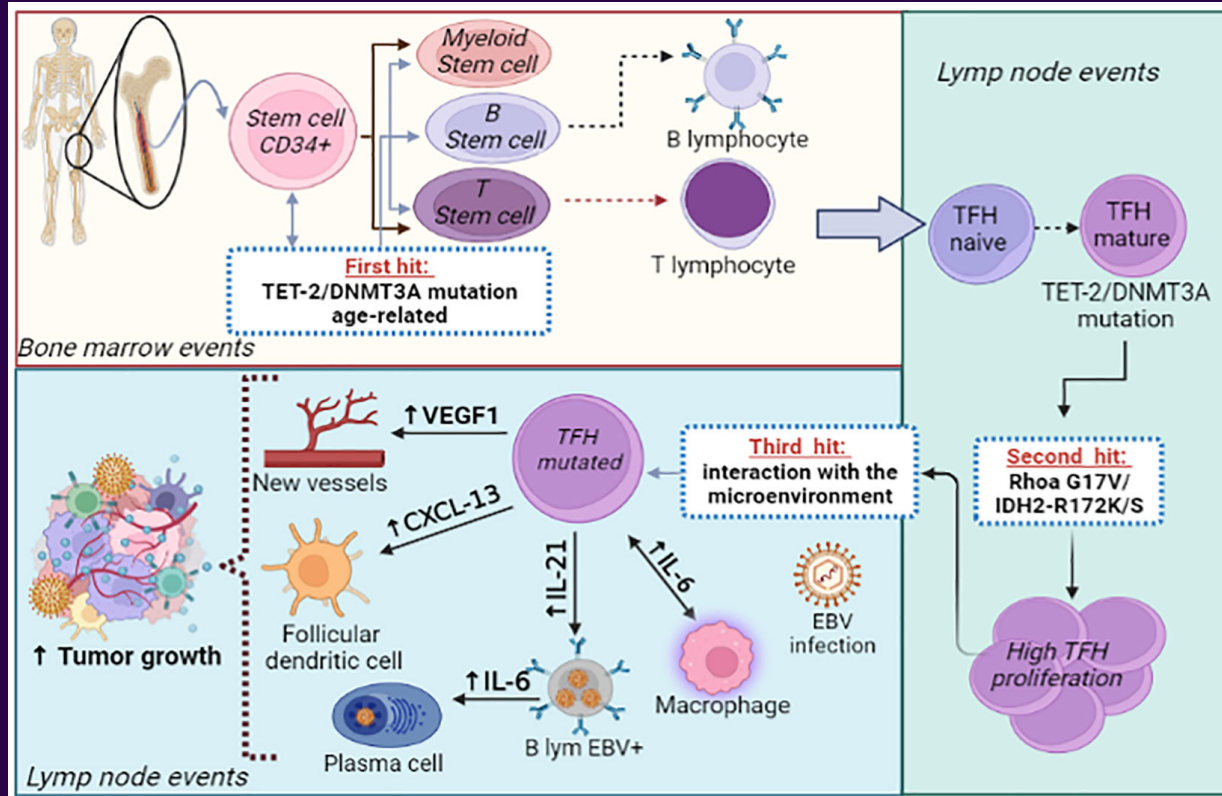
EXPERT OPINION APRIL 2024

- Nodal T follicular helper cell lymphoma, angioimmunoblastic type (WHO 5th Ed)
- Marked EBV positive B cell proliferation involving the lymph node, skin and liver

Clonality testing by PCR revealed **weak T and B cell rearrangements**



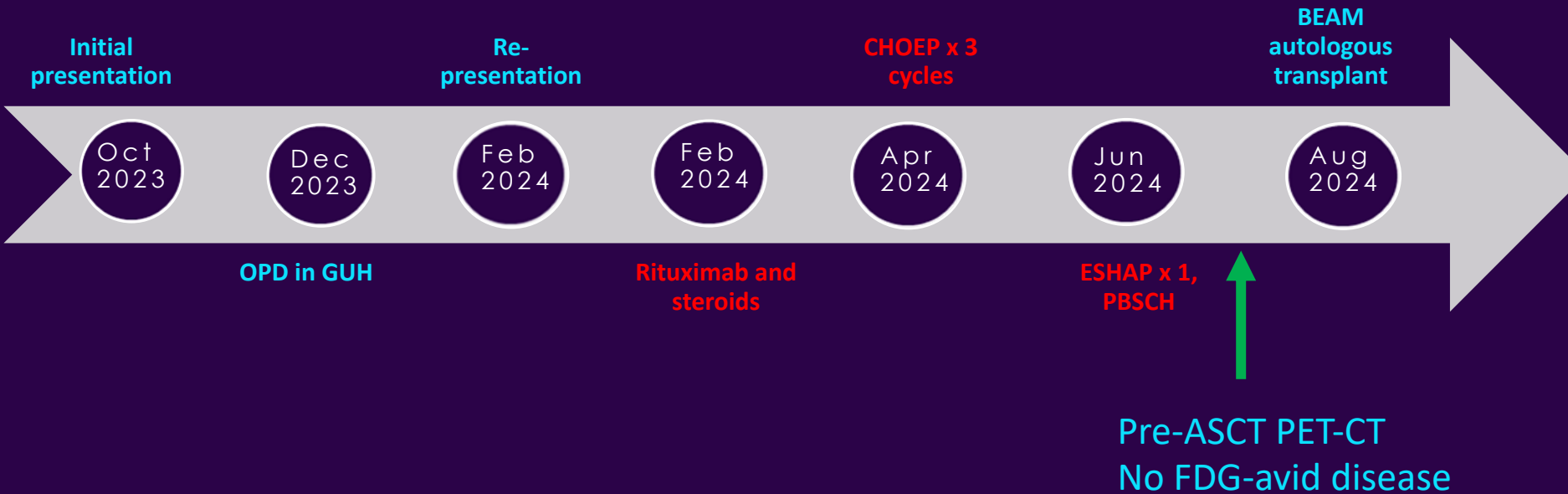
DISEASE BIOLOGY



Lage, *Frontiers Oncology*, 2023

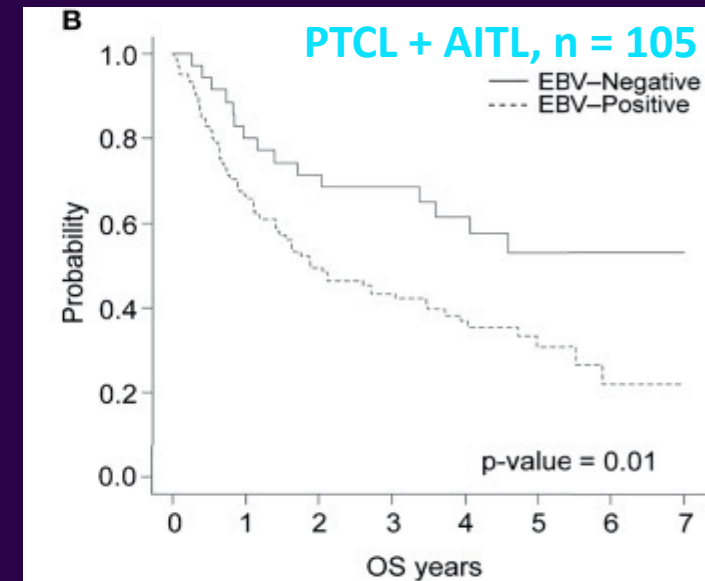
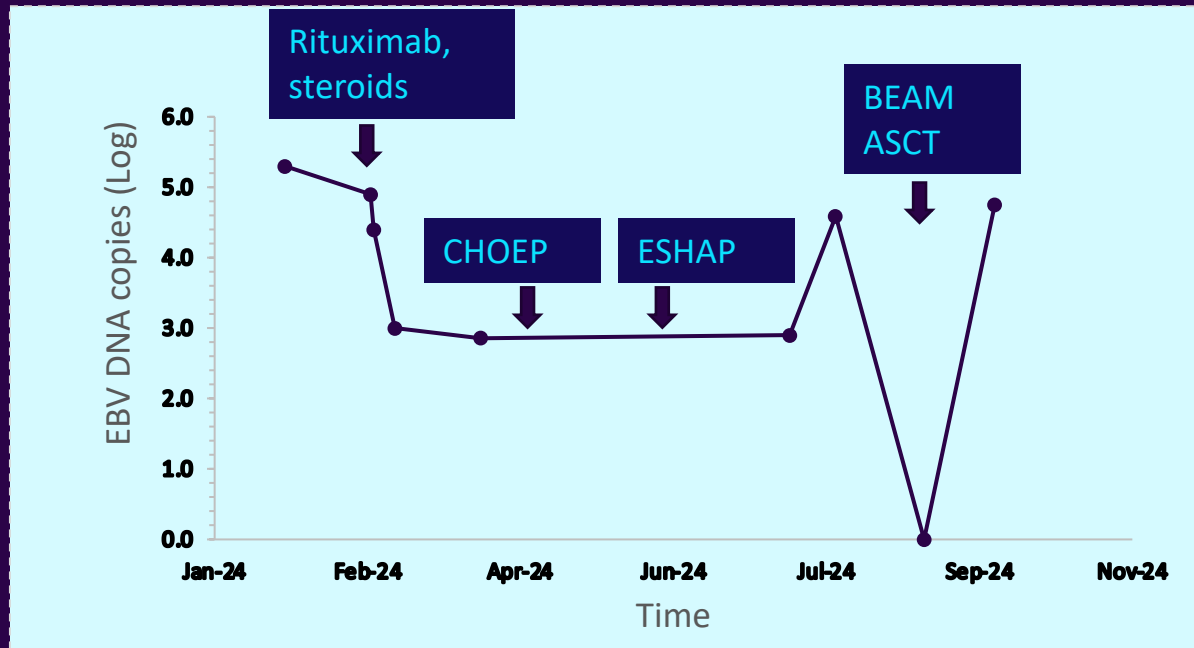
CASE CONTINUED

- Stage 4 disease
- IPI - high risk
- PS 0

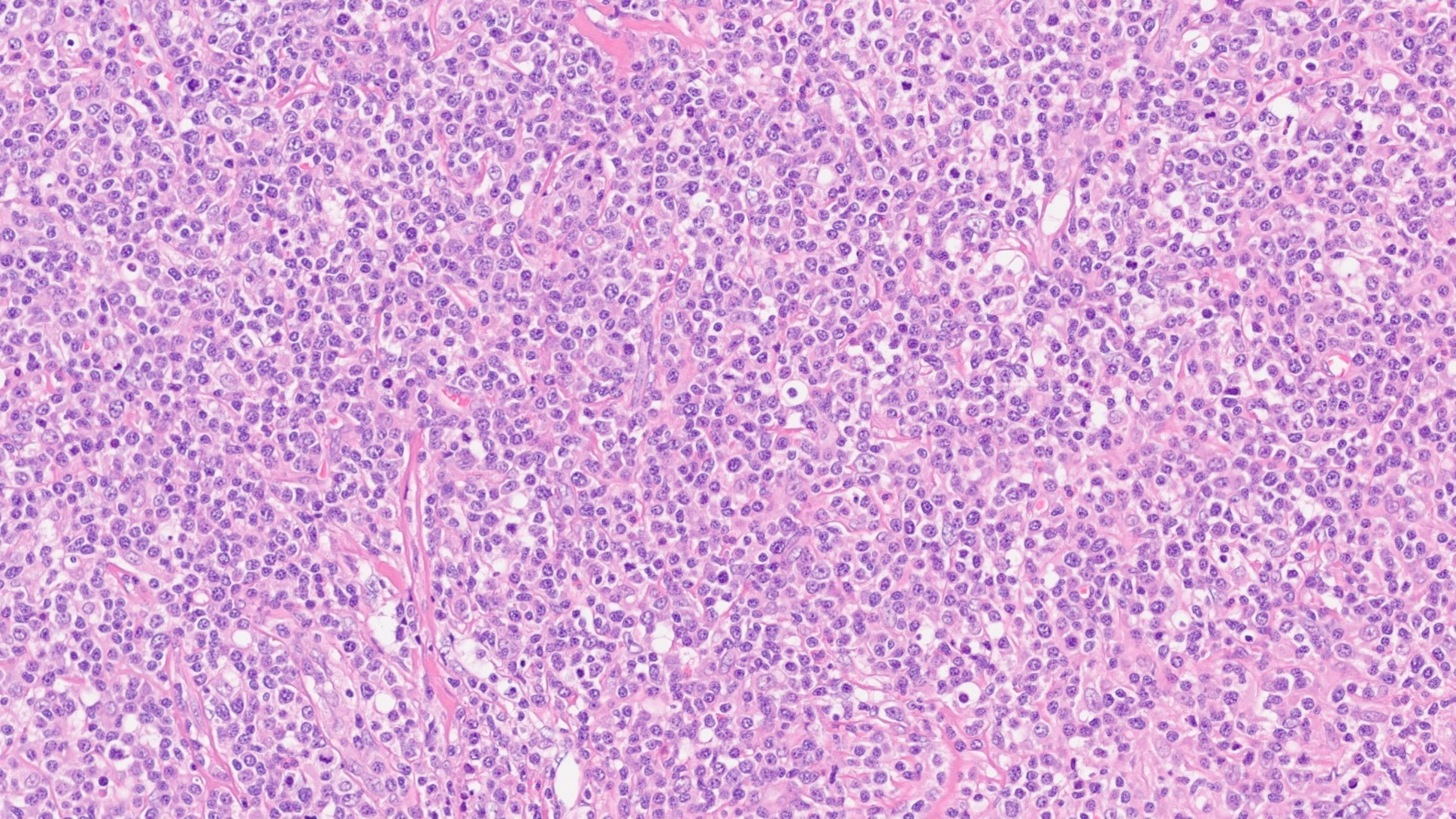


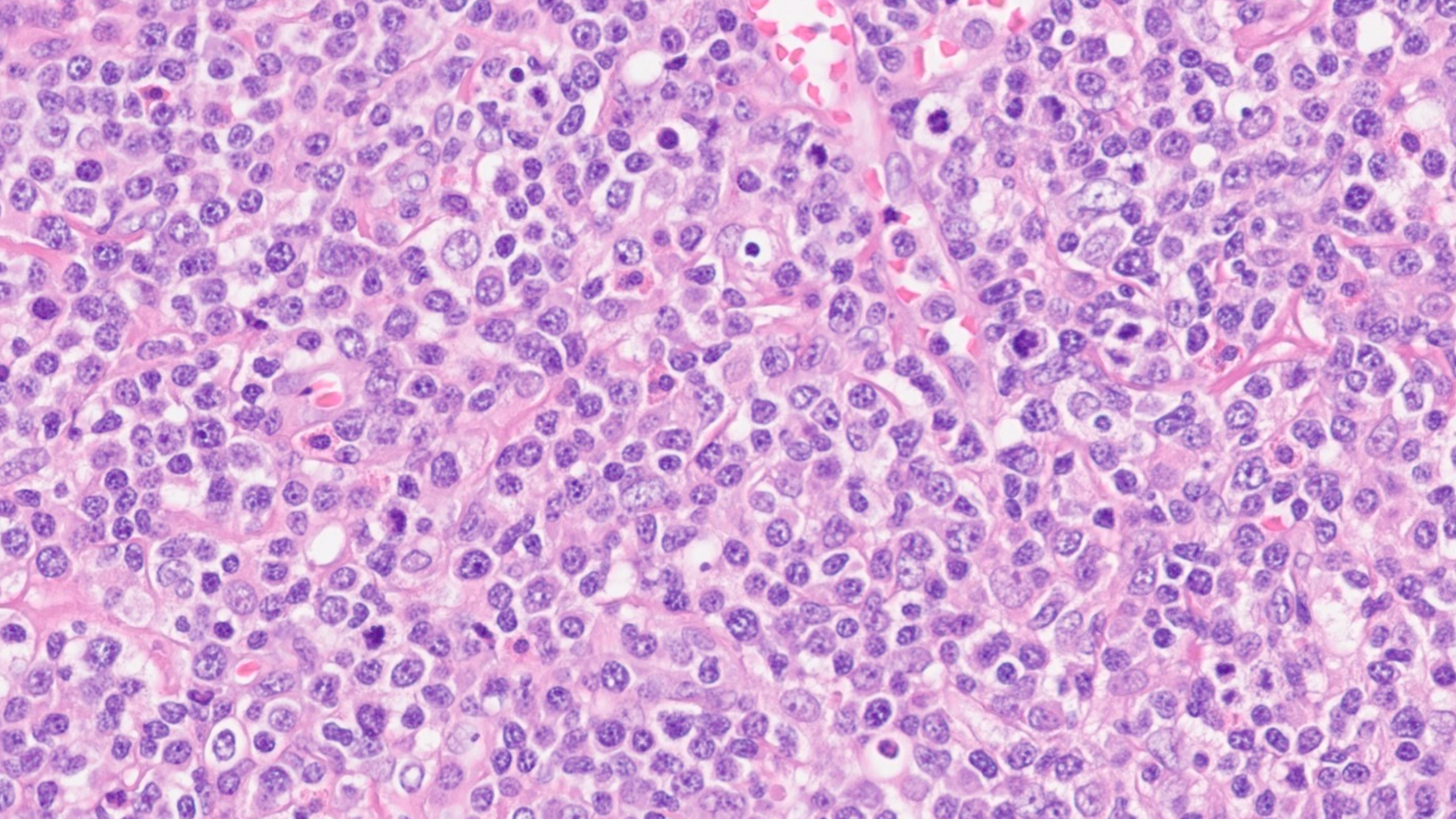
PET-CT 18th Sept -New and enlarged LNs - Deauville 5

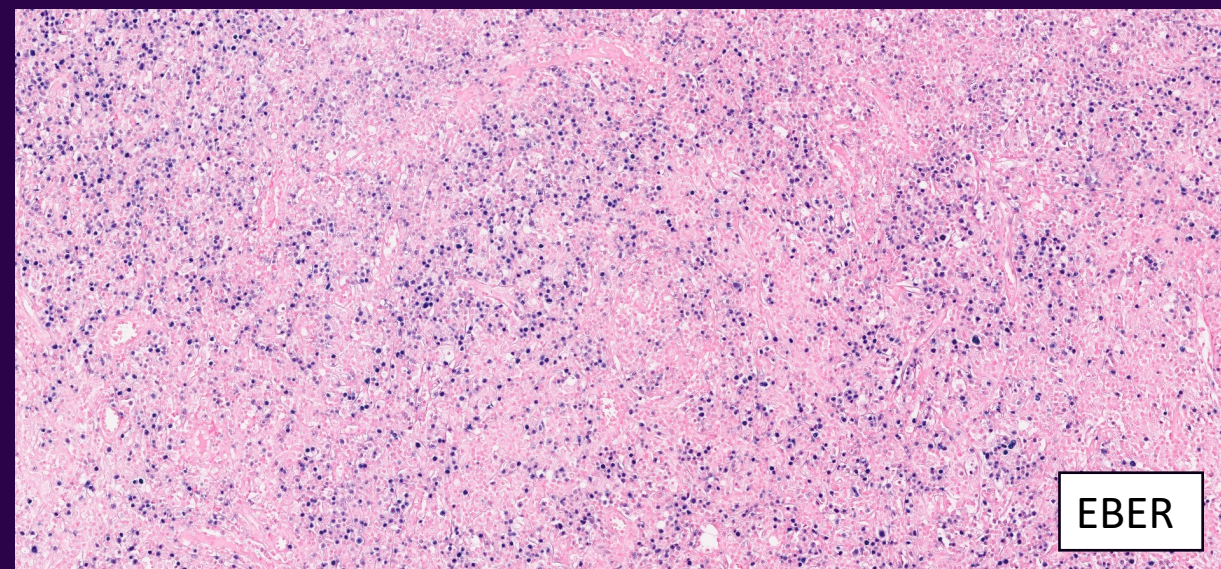
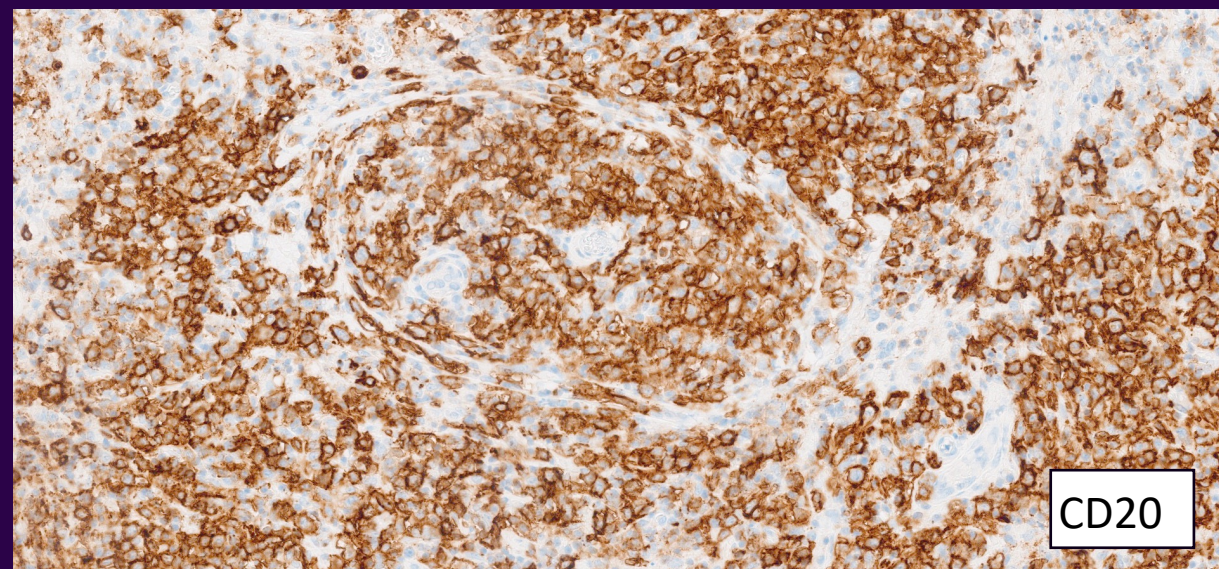
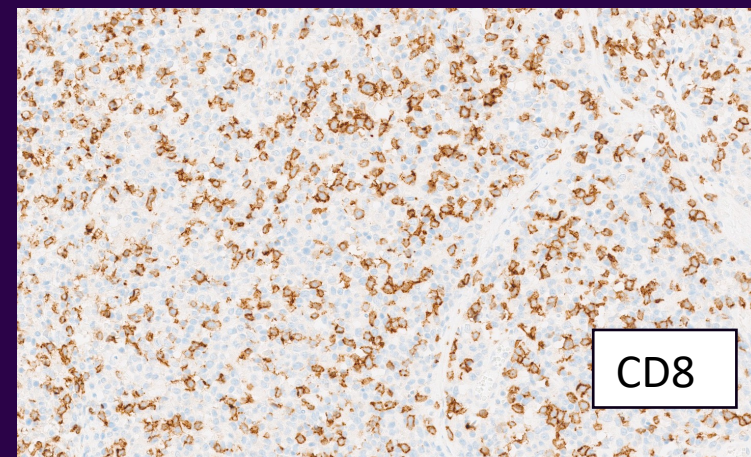
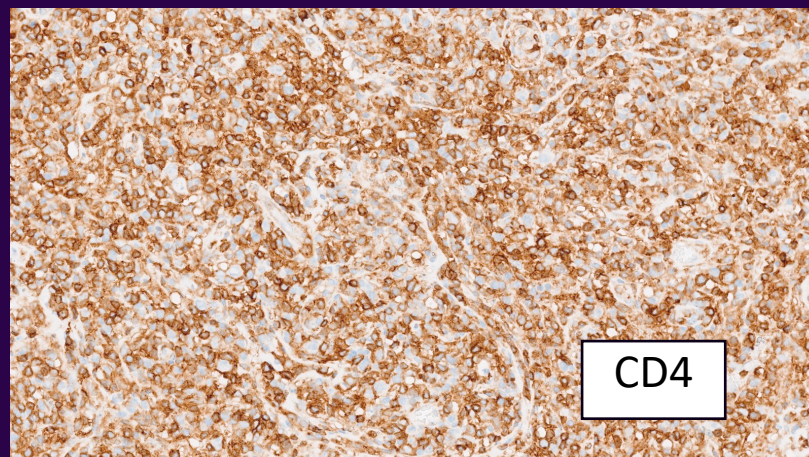
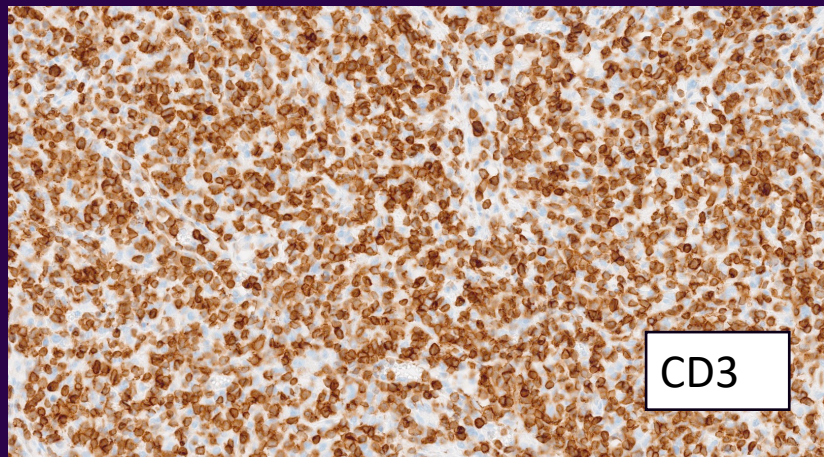
EBV TREND DURING TREATMENT



Kim, *Frontiers Oncology* 2022

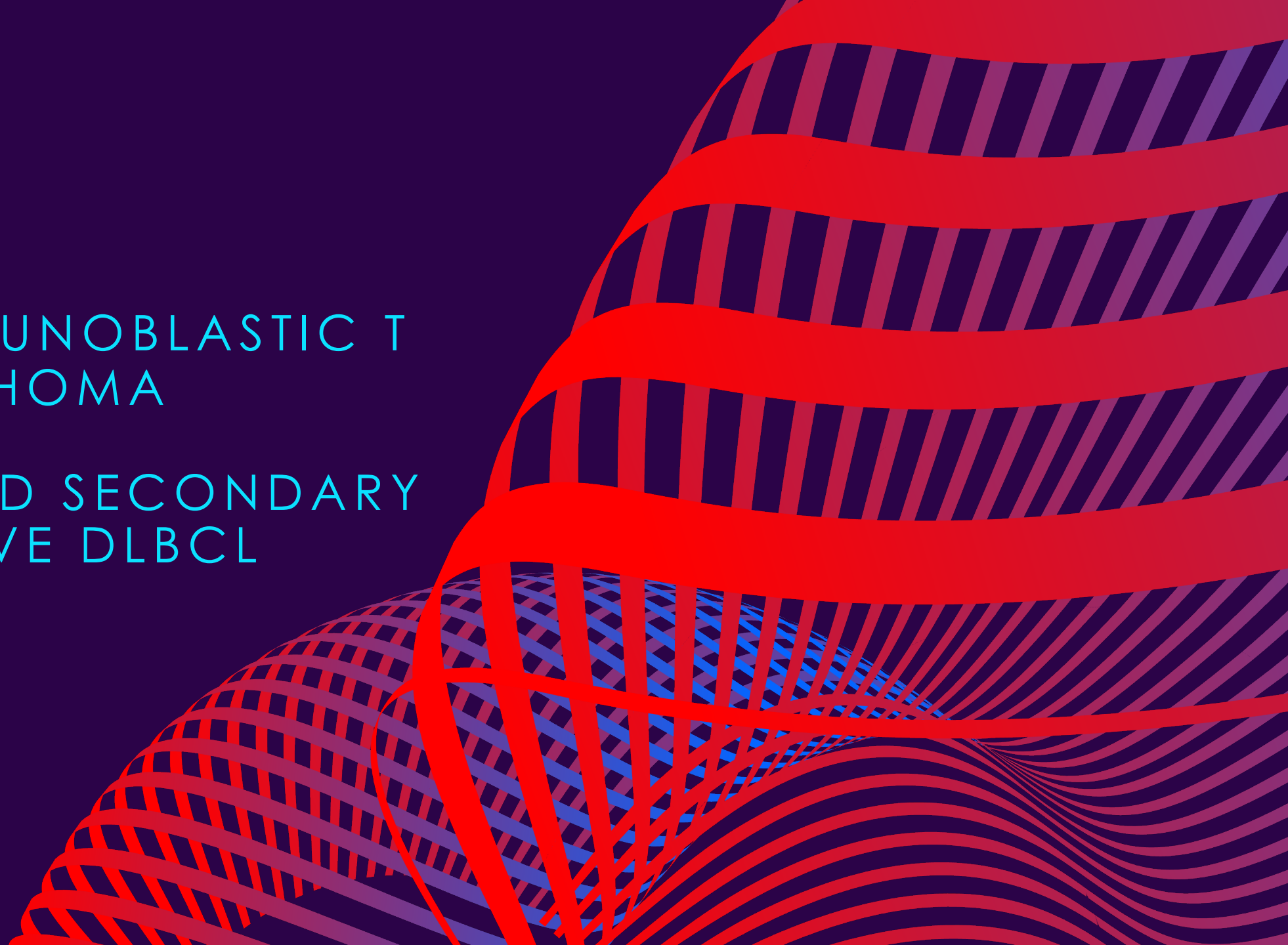




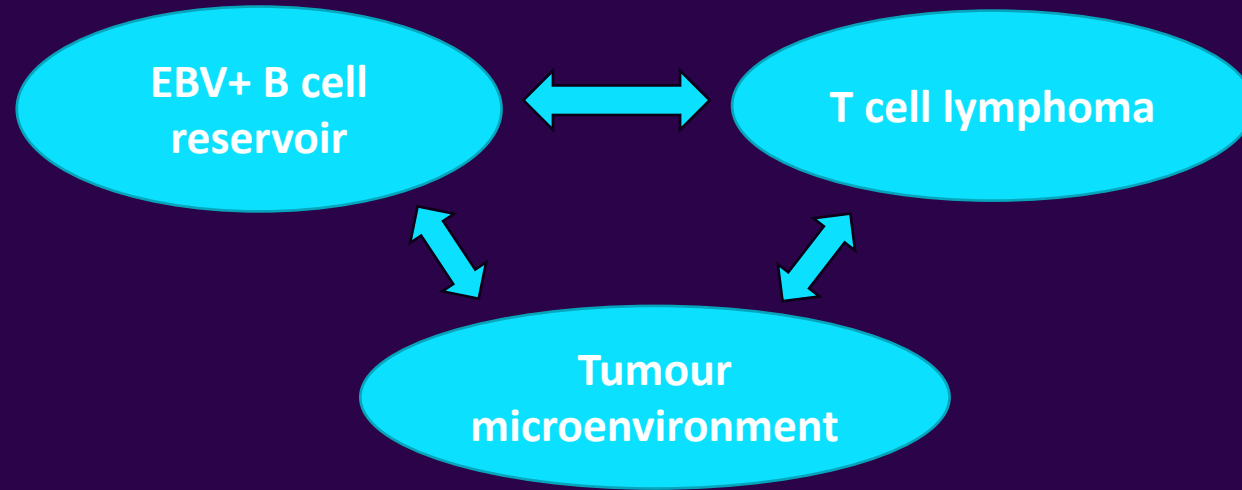


RELAPSED
ANGIOIMMUNOBLASTIC T
CELL LYMPHOMA

ASSOCIATED SECONDARY
EBV POSITIVE DLBCL



FURTHER THERAPY?



GENE	AMINO ACID CHANGE	VAF* (%)	PATHOGENICITY ASSESSMENT
<i>RHOA</i>	p.Gly17Val	3.93% (of 1094 reads)	Pathogenic
<i>TET2</i>	p.Gln916*	39.0% (of 1513 reads)	Pathogenic
<i>TET2</i>	p.Tyr233*	39.0% (of 1561 reads)	Likely Pathogenic
<i>DNMT3A</i>	p.Ile310Ser	38.0% (of 1076 reads)	Likely Pathogenic

NGS report from initial LN excision

Histone de-
acetylation

Hypomethylating
agents

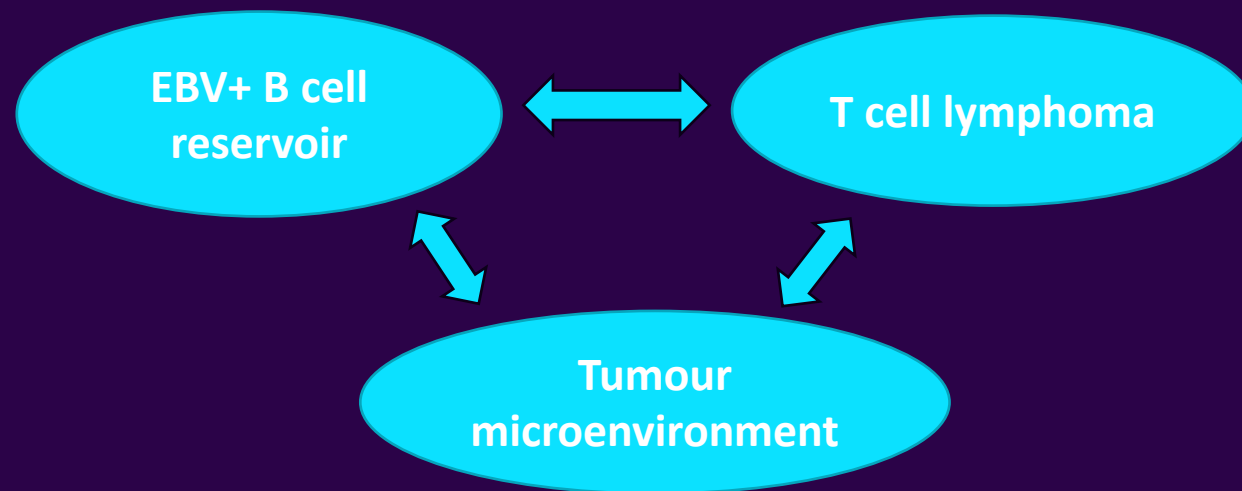
Anti-CD30
conjugate

Anti-CD19
therapy

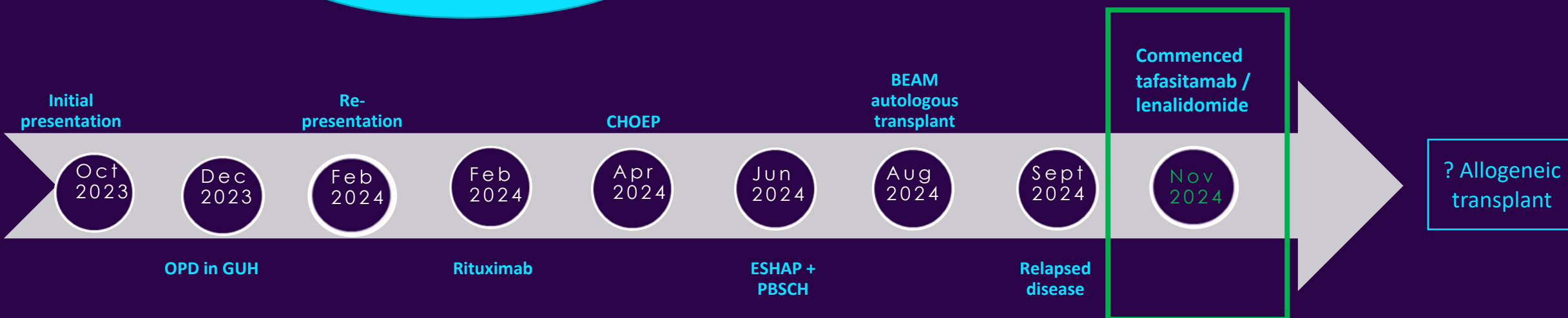
Immunotherapy

Immunomodulation

FURTHER THERAPY?

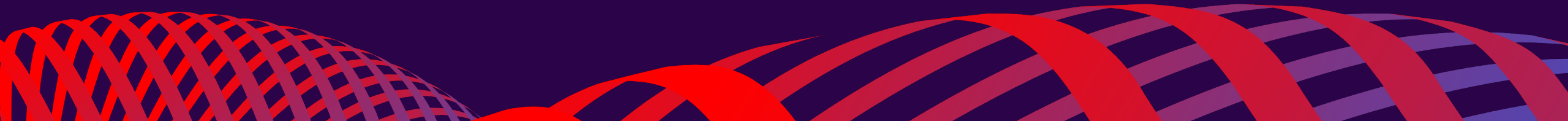


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REFERENCES

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- Kim TY, Min GJ, Jeon YW, Park SS, Park S, Shin SH, Yahng SA, Yoon JH, Lee SE, Cho BS, Eom KS, Kim YJ, Lee S, Kim HJ, Min CK, Lee JW, Cho SG. Impact of Epstein-Barr Virus on Peripheral T-Cell Lymphoma Not Otherwise Specified and Angioimmunoblastic T-Cell Lymphoma. *Front Oncol.* 2022 Jan 11;11:797028. doi: 10.3389/fonc.2021.797028. PMID: 35087758; PMCID: PMC8786732.
- Lage LAdPC, Culler HF, Reichert CO, da Siqueira SAC and Pereira J (2023) Angioimmunoblastic T-cell lymphoma and correlated neoplasms with T-cell follicular helper phenotype: from molecular mechanisms to therapeutic advances. *Front. Oncol.* 13:1177590. doi: 10.3389/fonc.2023.1177590



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