Hodgkin Lymphoma in EBUS

Giulio R. Romani

Histopathology trainee

Royal Cornwall Hospital Trust - Truro

Clinical History - Initial presentation July 2023

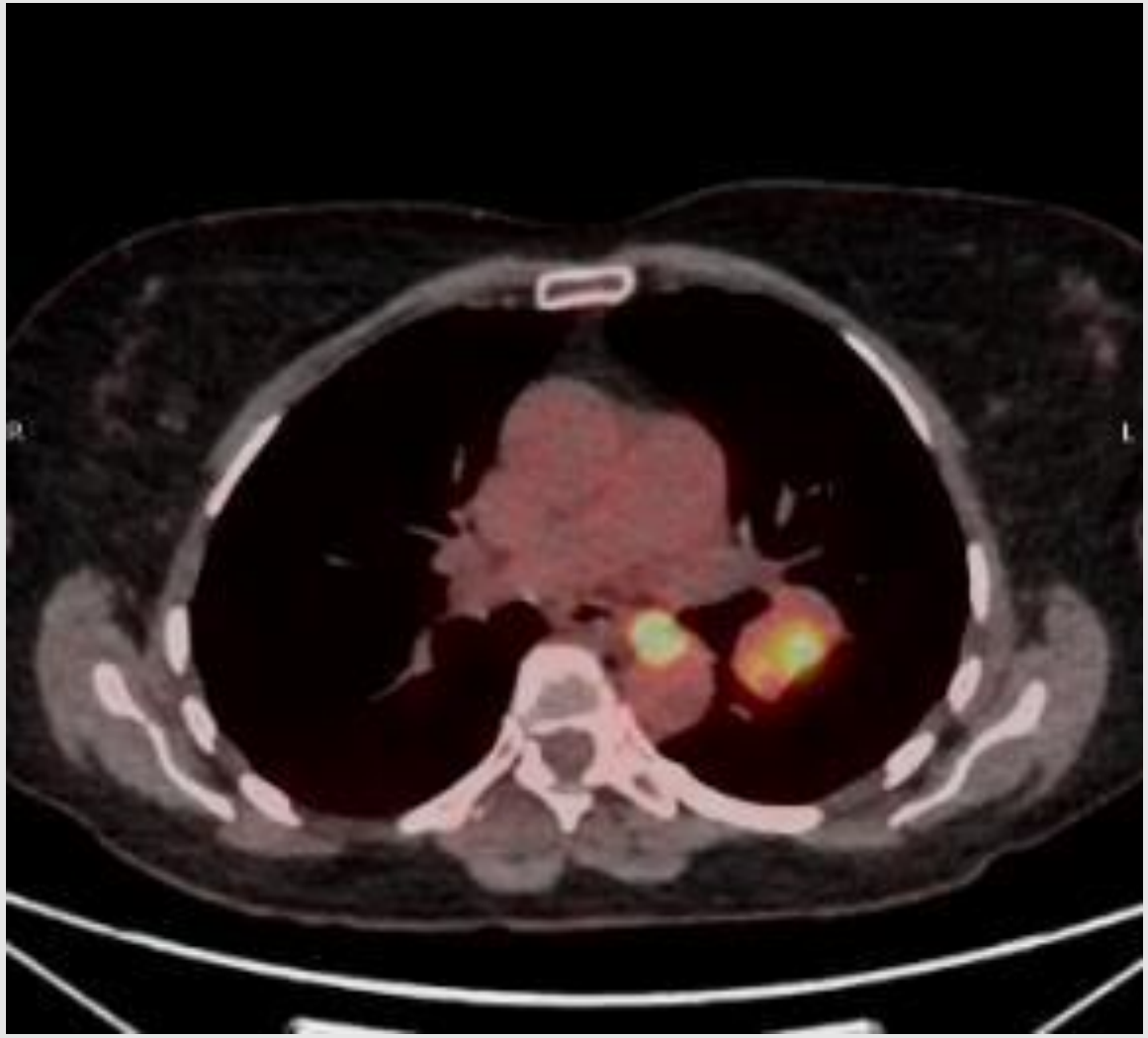
- 68 year old female, PMHx of HTN, hypercholesterolaemia and hypothyroidism, on HRT, active smoker. No FHx of lung cancer.
- LDCT chest July 2023 under Lung Cancer Screening program. Incidental finding of 22 x 21 mm left suprahilar mass, plan for repeat LDCT in 24 months as “AI detected nodule is measured to include an adjacent vessel, not size significant therefore dismissed”.
- Quits smoking.
- LDCT chest June 2025 shows 3.5 cm LUL ground-glass nodule with a 5 mm solid component (plan for repeat LDCT chest in 3 months as per protocol); and minor increase in size of left suprahilar mass: 2.7 cm with impression of branching vessels, possible pulmonary artery aneurysm or pseudoanerysm, recommend CTPA to further evaluate.

Lung MDT discussion

- Discussed at Lung MDT July 2025, agree plan for CTPA and repeat LDCT in 3 months.
- CTPA July 2025 shows the well-defined rounded mass described as an area of low-density, non-enhancing soft tissue, nodular rather than vascular, measuring 28 x 27 mm. Additional nodal tissue was noted medial to the left main pulmonary artery and behind the left superior pulmonary vein. Centrilobular emphysema and colonic diverticulosis are incidentally noted.
- Patient counselled for PET-CT scan.

PET-CT

PET-CT July 2025 showed presumed FDG-avid left perihilar bronchogenic carcinoma with FDG-avid ipsilateral left hilar and posterior mediastinal nodal metastases, giving a PET stage of T2bN2M0.

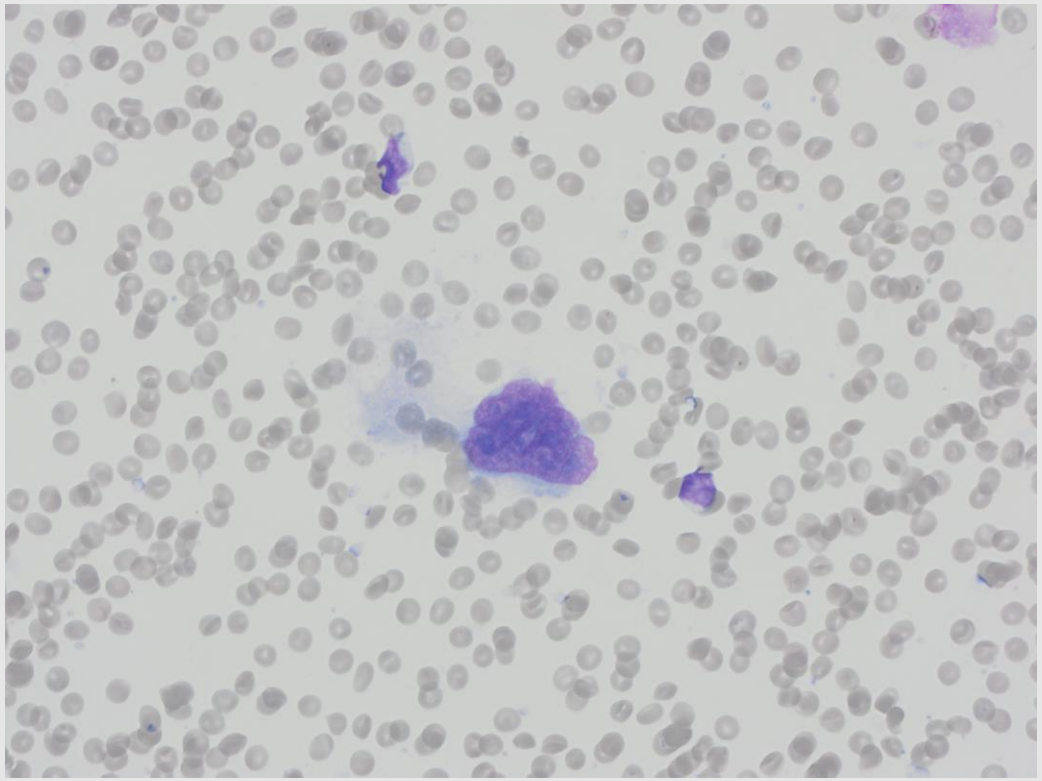


ROSE EBUS-TBNA

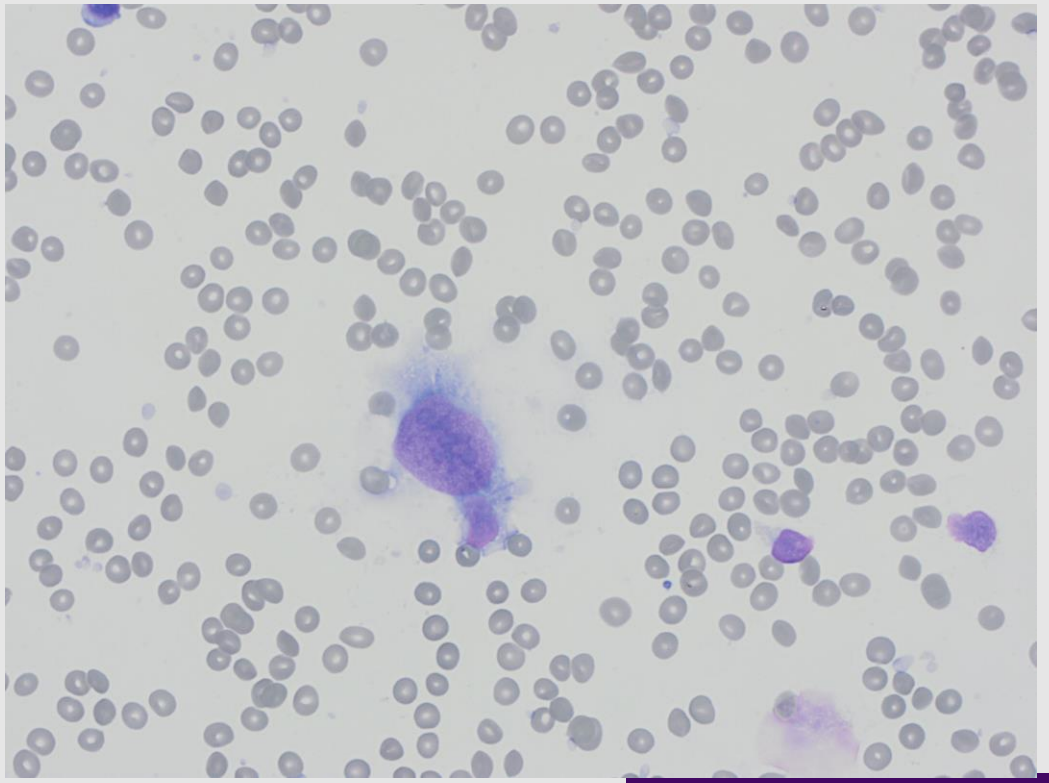
- ROSE EBUS-TBNA performed in Aug 2025 for sampling of lymph node stations 7L and 11L as only sites available for sampling.
- Station 7L: low posterior 14mm round non compressible but soft; with adjacent 7mm node: sampled x 4 - nodal with some diagnostic groups.
- Station 11L identified measured at 12.5 mm x 2 nodes pathologically enlarged, non compressible; 4 passes onto slides and 2 into pot, nodal with scanty diagnostic groups.

Giemsa

Large polylobate-nucleus or multinucleated cell?

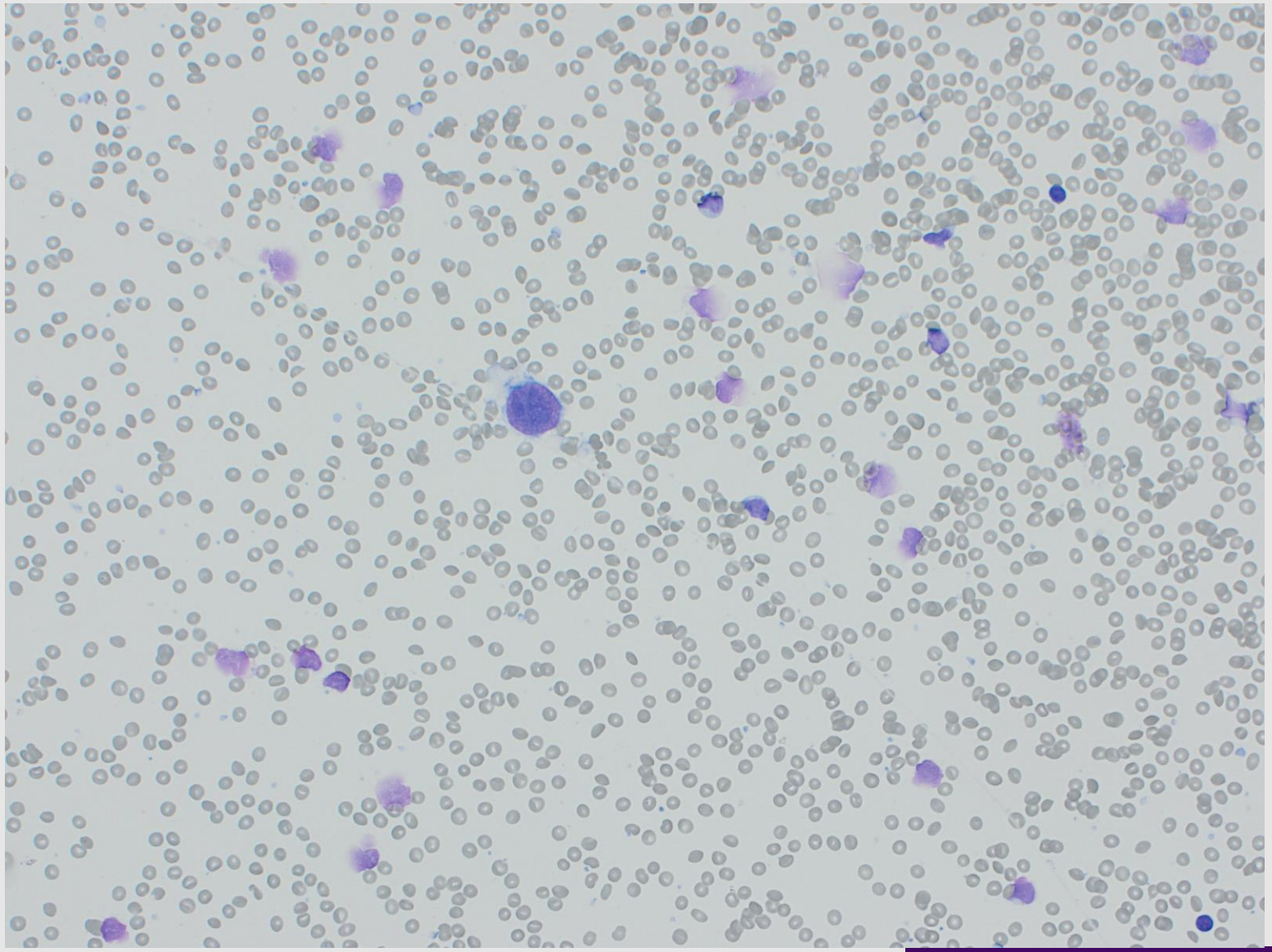


Large nucleus with prominent nucleoli or multinucleated cell?

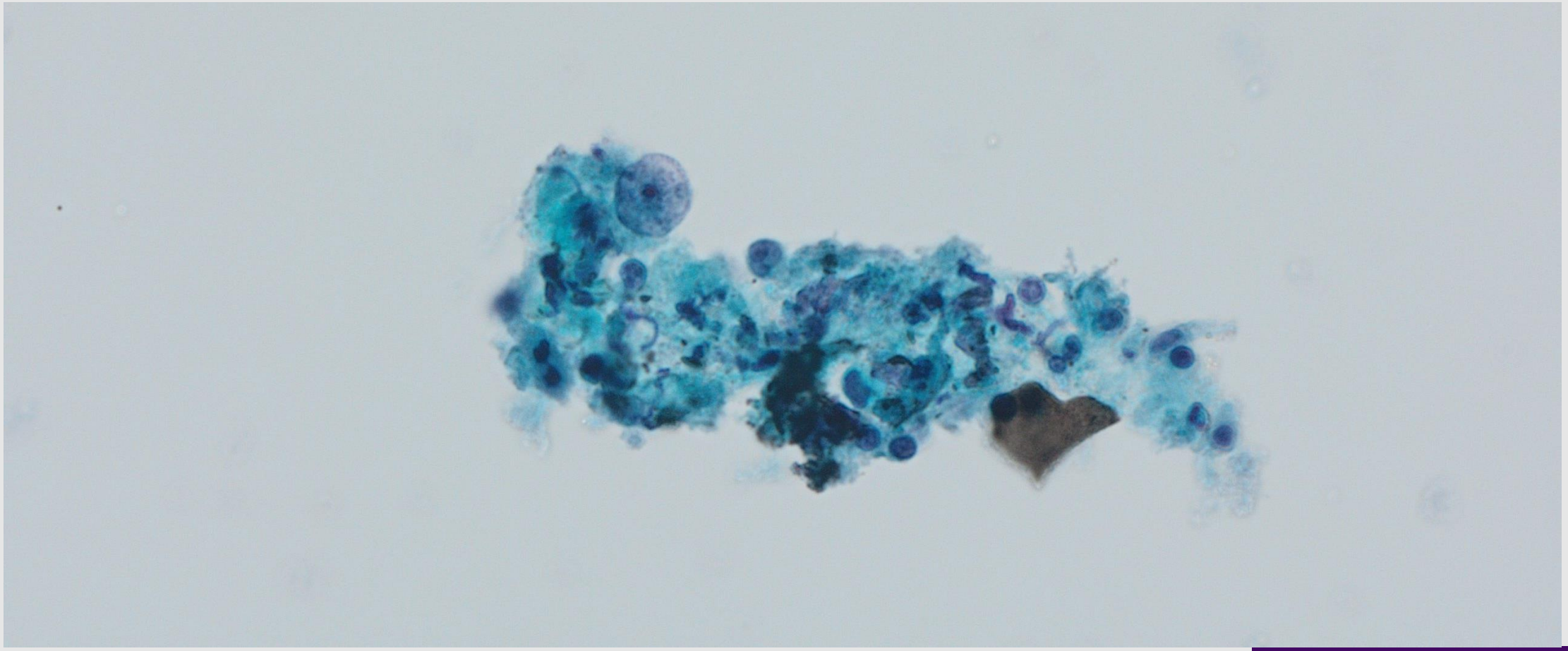


Giemsa

Large cell with multiple nucleoli and normal lymphocytes in the background.

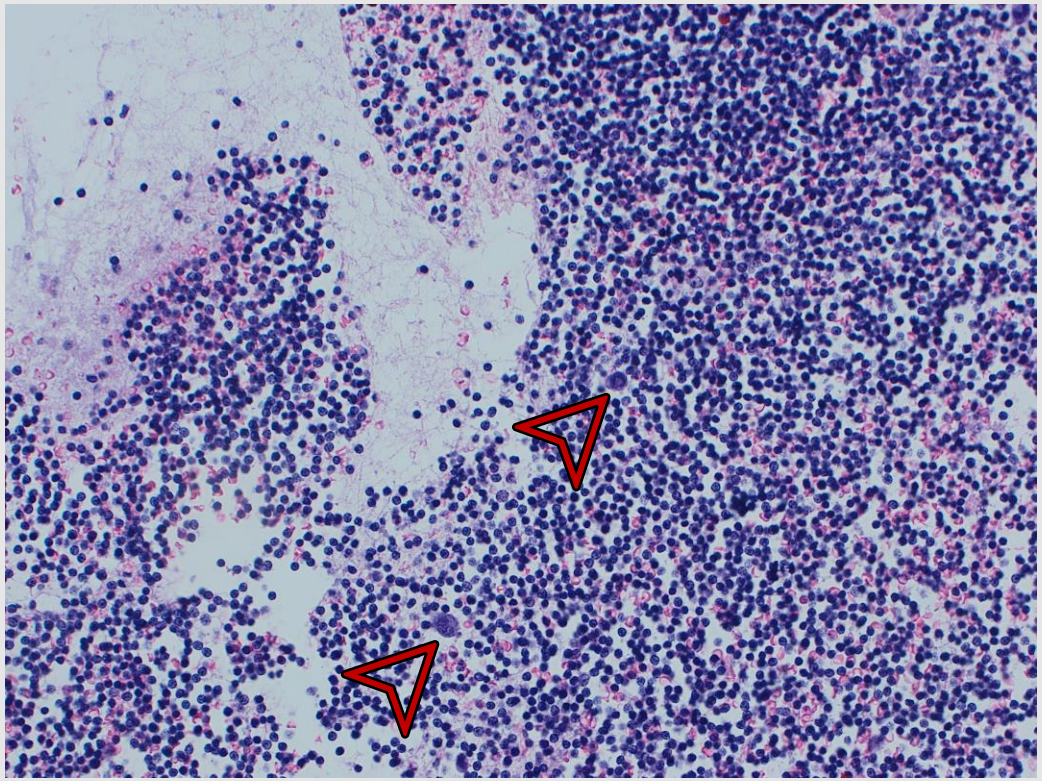


PAP stain

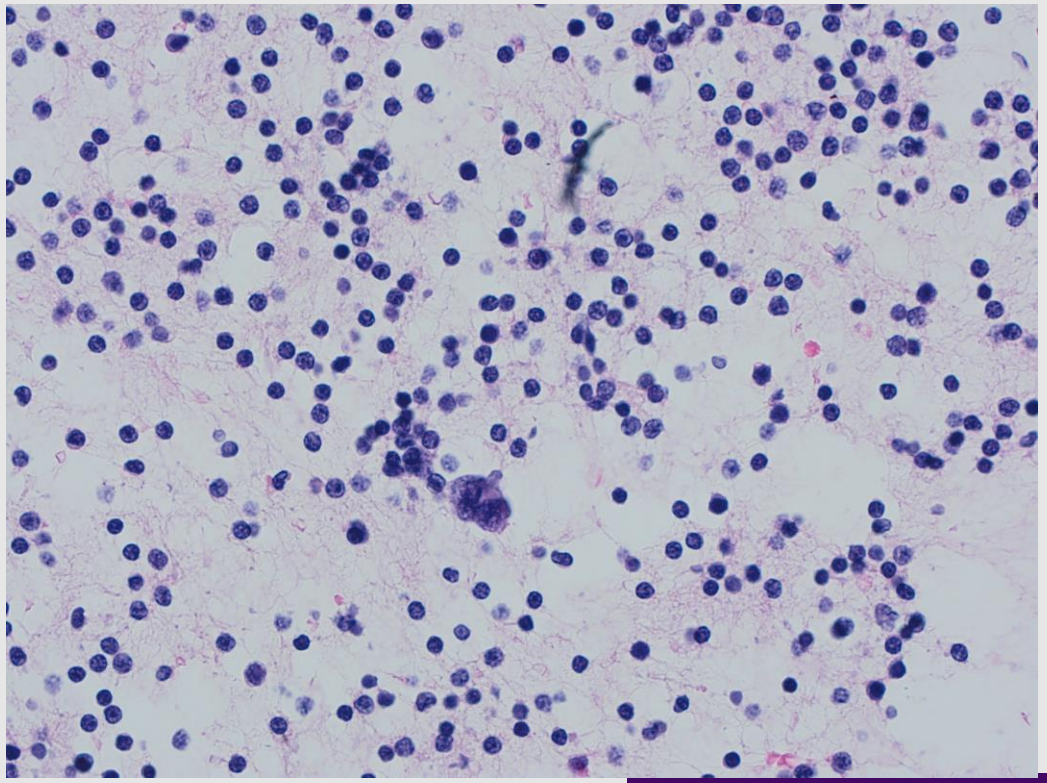


Cell block H&E

More atypical cells (arrowheads). Compare their size with normal lymphocytes.



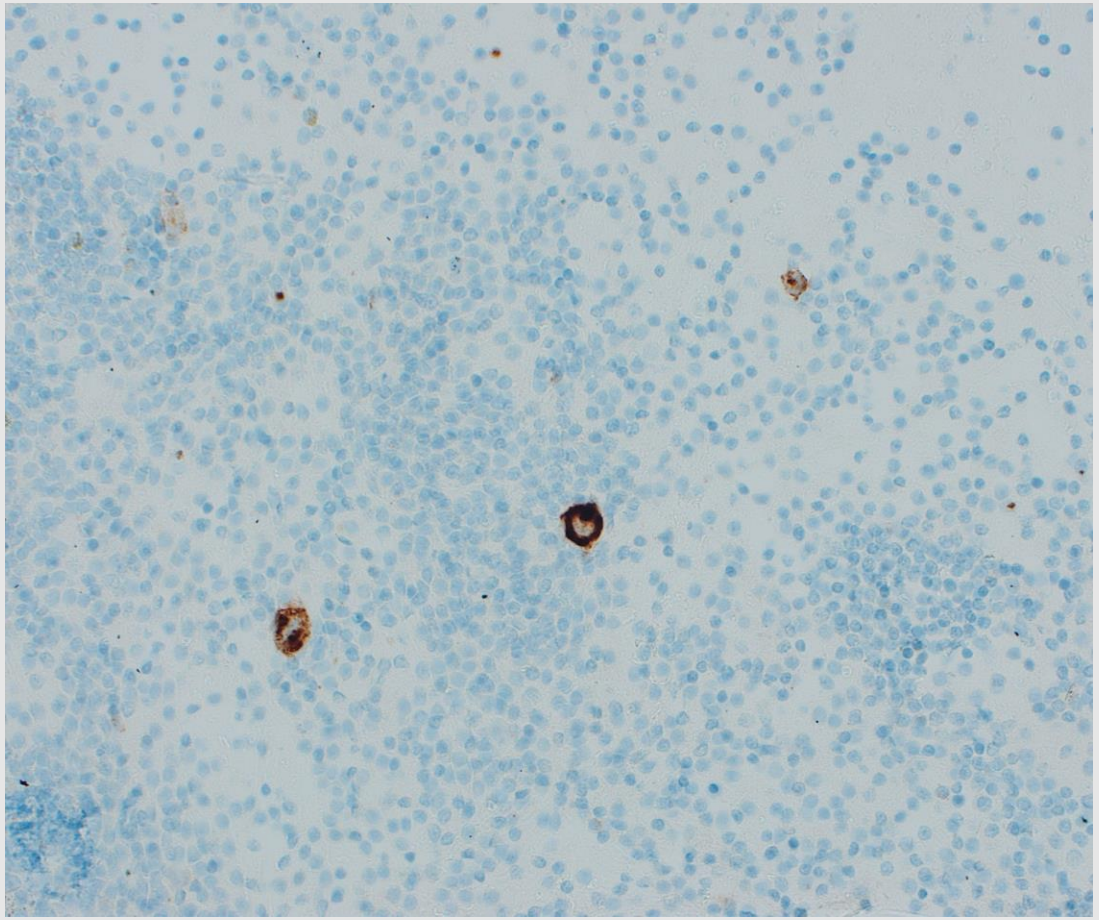
Again, is this a multinucleated cell or rather a polylobate nucleus?



IHC panel

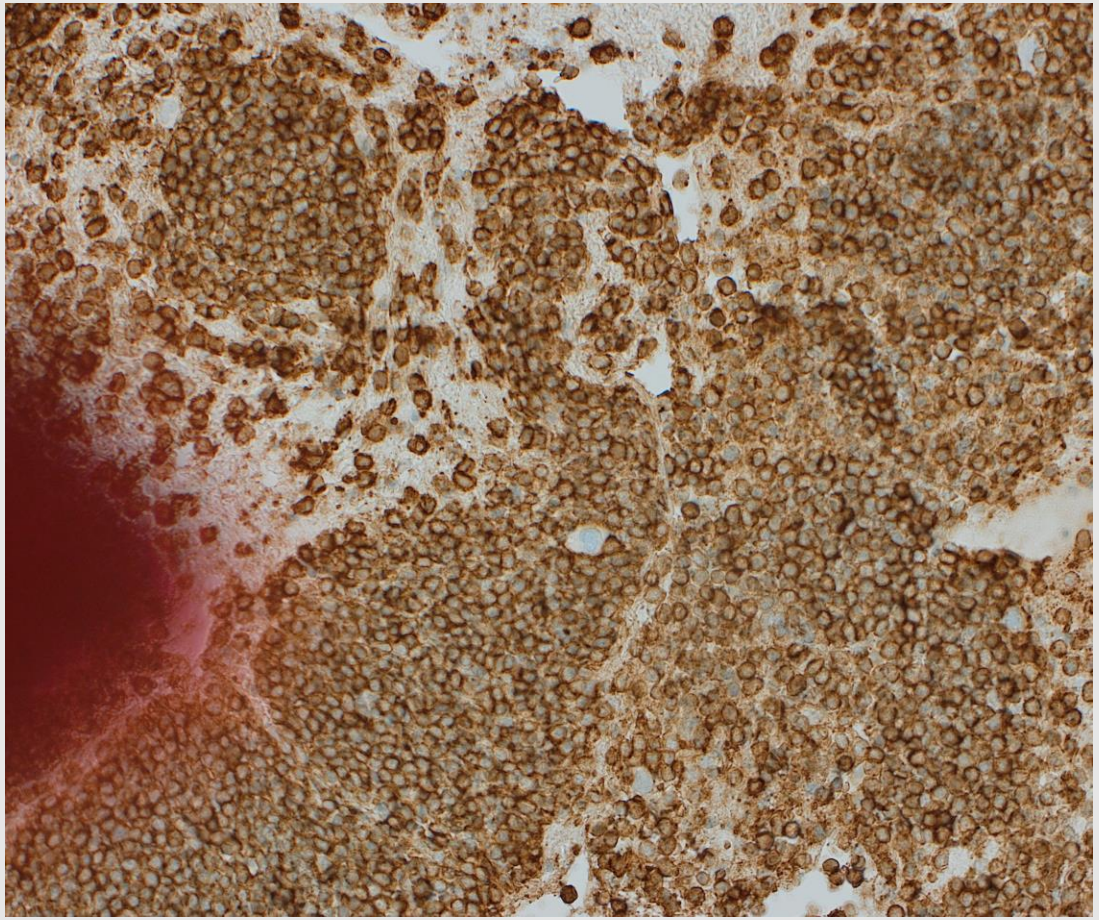
- Reported as “occasional single dispersed abnormal cells displaying high nuclear to cytoplasmic ratios, binucleation, minimal cytoplasm, prominent nucleoli and irregular nuclear membranes intermixed with abundant nodal sampling.”
- The cell blocks are sent for a wide immunohistochemistry panel including stains for TTF-1, p40, MNF116, MelanA, CD30 and CD45.

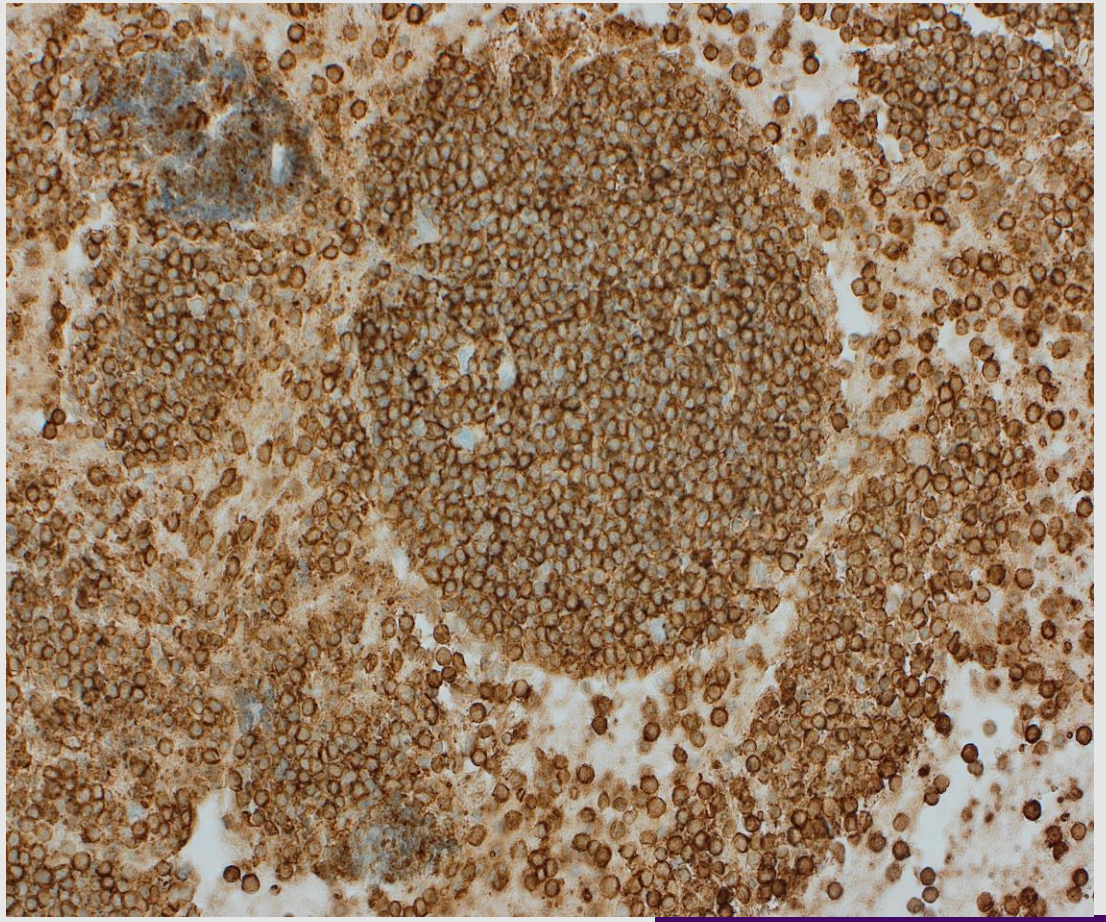
IHC CD30



Positive membranous and Golgi staining for CD30 and negative expression for CD45 (next slide)

IHC CD45

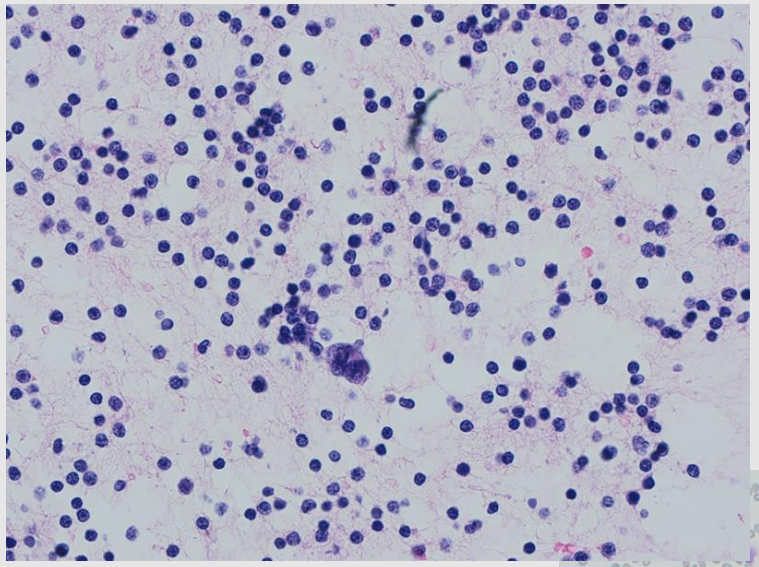


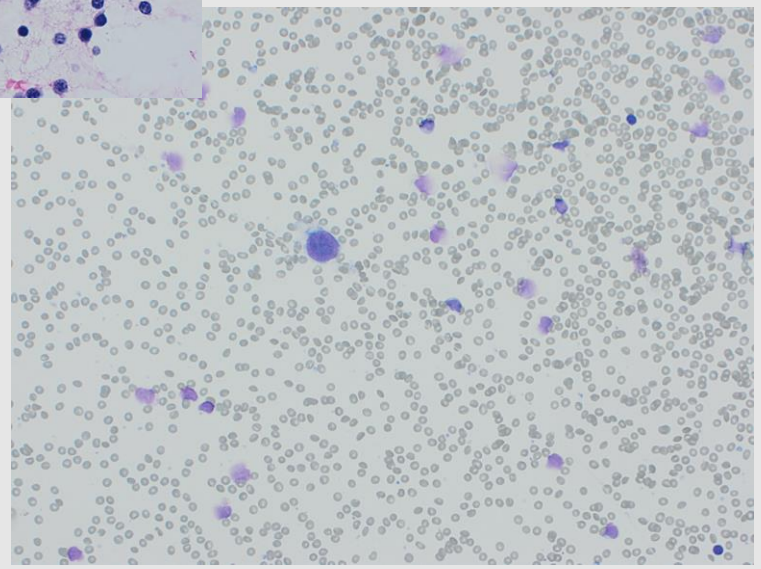


Back to those Giemsa's

Reed Sternberg cells (RSCs) are large (40-70 µm) bilobed or two distinct but mirror-image nuclei with prominent single or multiple large nucleoli in each. Often "owl-eye nucleoli", meaning they appear red with a clear halo surrounding them.

Hodgkin cells (HCs) are smaller than RSCs and have single, round to more pleomorphic nuclei with one or more prominent nucleoli.



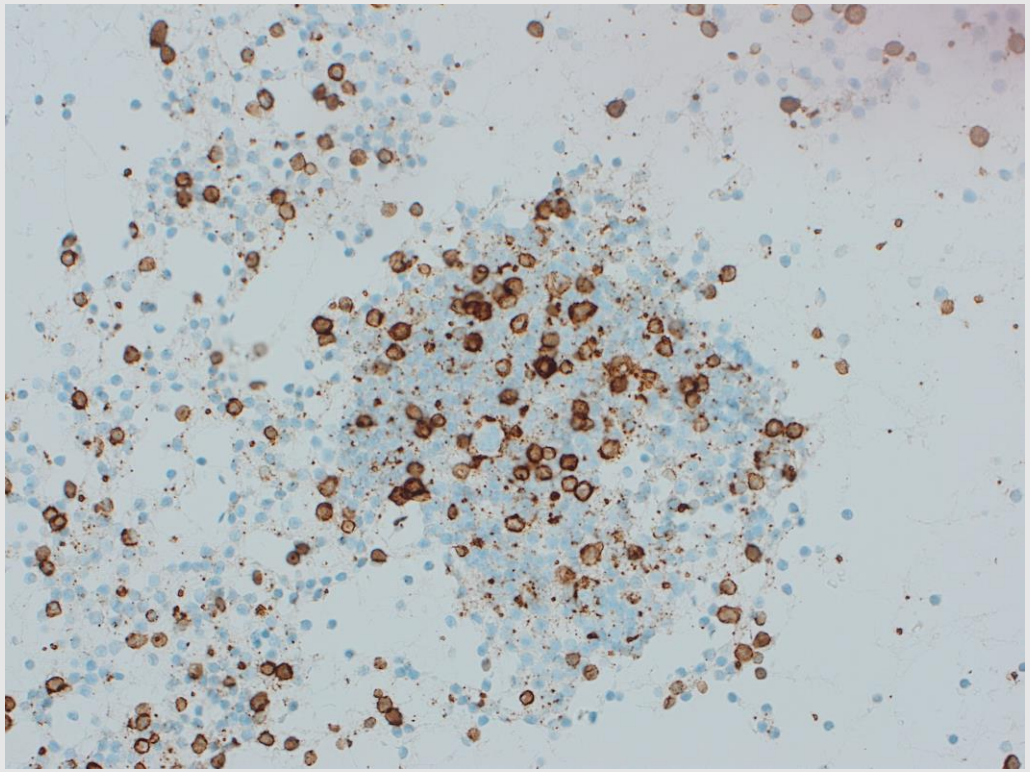


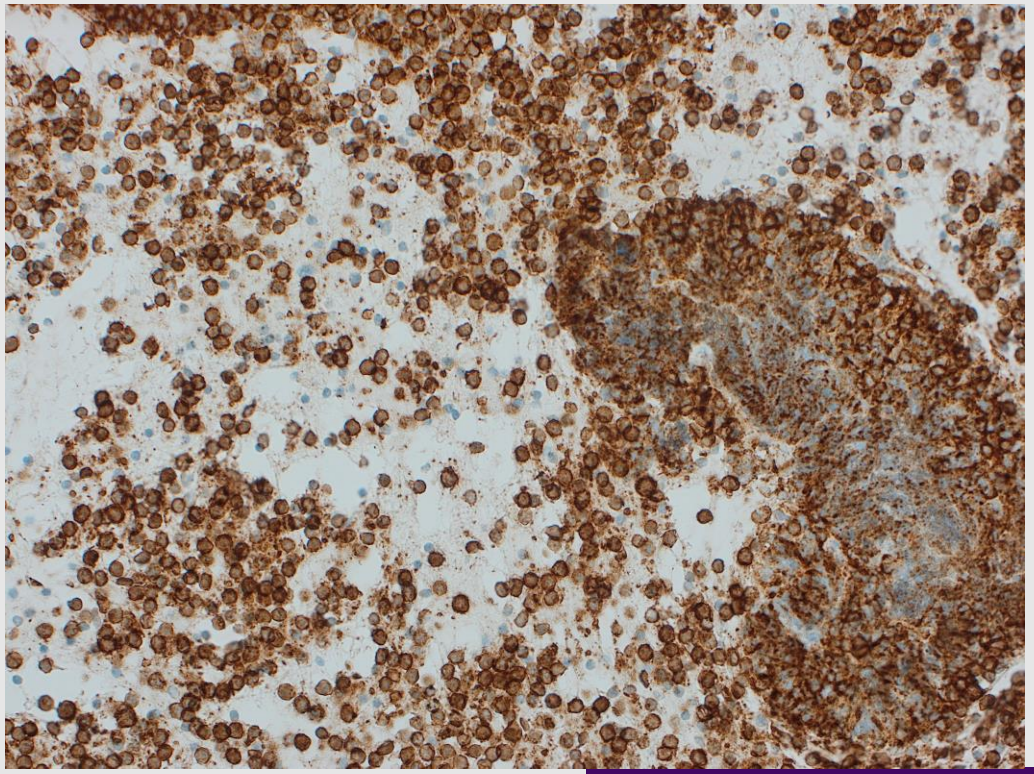
Classic Hodgkin's Lymphoma (CHL)

- Neoplasm derived from germinal-centre B cells, composed of HCs and RSCs with a defective B-cell phenotype, in a reactive immune cell microenvironment. There are several subtypes with different immunophenotypes, reactive background and clinical features.
- Bimodal incidence distribution. EBV infection association.
- Usually presents as painless axial lymphadenopathy or constitutional B symptoms (fever, sweats, weight loss). Spleen is involved in 60% of cases. Usually presents in stage I or II (60% of cases).
- The malignant cells are unable to produce Ig and escape apoptosis and immune surveillance, inducing recruitment of inflammatory cells.
- Staging (Lugano classification) depends on sites of involvement (nodal regions, sides of diaphragm), presence/absence of symptoms or extra-nodal involvement.
- Treatment is usually chemo (ABVD cycles) and is response-guided.

IHC CD20 and CD3

Unusually, the background population is a mixture of B & T lymphoid cells expressing CD20/CD79a/PAX5 & CD3 respectively.





Reporting

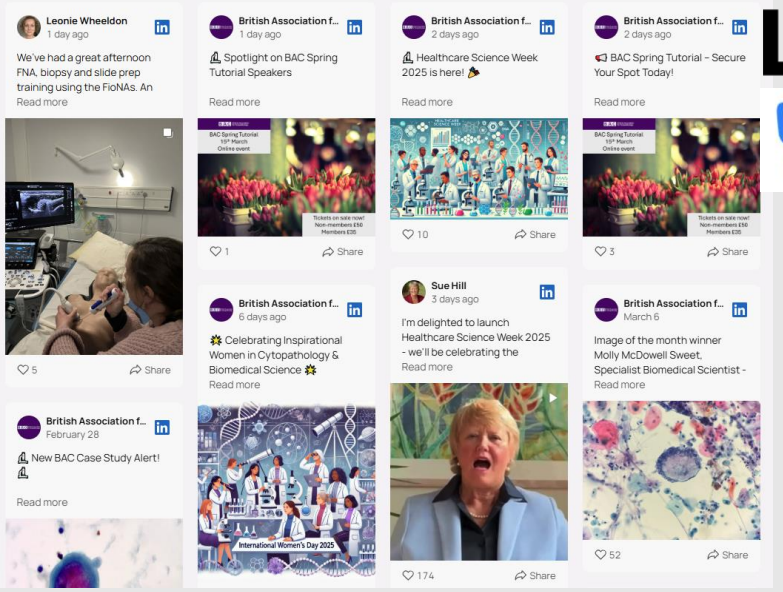
- “This is a challenging case characterised by a dispersed/low level population of large B cells with Hodgkin morphology demonstrating unequivocal CD15 and CD30 positivity. The background is mixed B and T cell lineage, but artefactual mixing/disaggregation of the sample is suspected. Overall, despite the nature of the specimen and limitation of fragmented microbiopsies, appearances are consistent with classic Hodgkin lymphoma, referral to a haematologist is advised.”
- Referred to Haematology MDT and for a second cytopathological opinion. This confirmed “The large cells are positive for CD30, CD15, and MUM1, with weak positive staining for Pax5 and OCT2. They are negative for CD20, CD79a, Bob1, EBER, CD45, CD3, p40, TTF1, Melan A, and MNF116. The background contains abundant CD20+ small B cells, which outnumber the CD3+ T cells. The features are those of classic Hodgkin's lymphoma, probably lymphocyte-rich subtype.”

Outcome

- Discussed in Haematology MDT, CHL Stage II.
- Seen by the Haematologist, was counselled and commenced 2 cycles of ABVD chemotherapy, for curative treatment, followed by a PET CT.
- PET CT Oct 2025 showed Deauville 1 or complete metabolic response to treatment.
- Planned for final 2 cycles of treatment.

References

- Al-Abbadi, M. A., Vielh, P., & Zeppa, P. (2022). Classic Hodgkin Lymphoma. In *WHO Reporting System for Lymph Node, Spleen, and Thymus Cytopathology* (pp. 160–162). IAC - IARC - WHO Joint Editorial Board.
- Andrea, K. N., Aster, J. C., & Herrera, A. F. (2025, February 18). *Classic Hodgkin lymphoma: Presentation, evaluation, and diagnosis in adults*. UpToDate. Retrieved September 26, 2025
- Stein, H., Pileri S. A., Weiss, L. M., Poppema S., Gascoyne R. D., & Jaffe E. S. (2017). Hodgkin Lymphomas: Introduction. In *WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues* (pp. 424-430). IARC.
- Barcena, C., de Leval, L. (2024). *CHL lymphocyte rich*. PathologyOutlines. Retrieved October 23, 2025



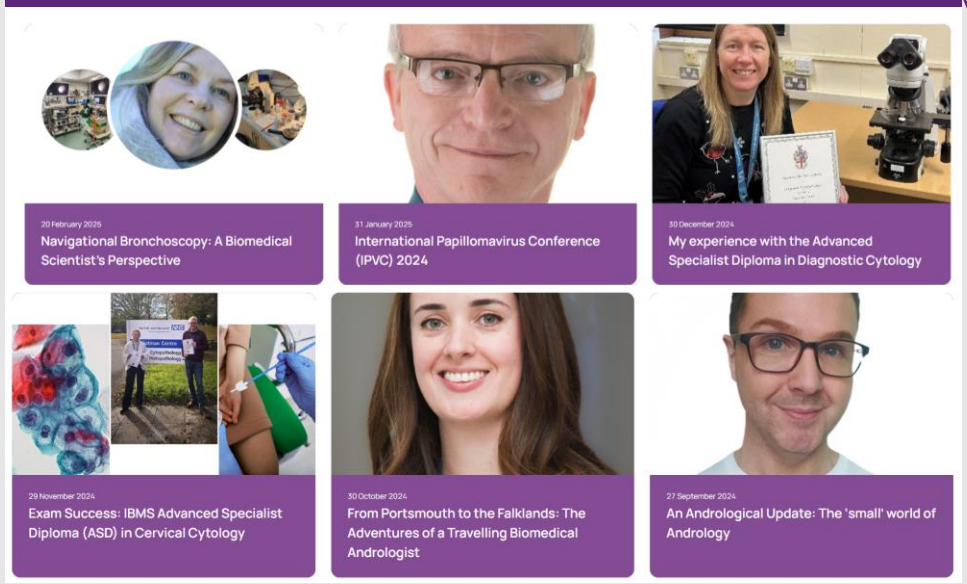
Linked in

Bluesky

The latest cytology news

Educational links
&
Guidance and publications

Win BAC goodies by submitting an image of the month, case study or blog!!



Members only access

- Reduced fees for BAC events and webinars
- Exclusive access to educational content:
  - Blogs
  - Case studies / quizzes
  - Webinars
  - SCAN magazine
  - Lunchtime slide club
- Funding and bursaries
- EFCS membership included

Consultant £125
Trainee pathologist / BMS £30
Cytoscreener £30

Up & Coming Events

20 November 2025

BAC Annual Scientific Meeting 2025

Time: 11:00 - 17:00

BAC Event

Read more

Members lunchtime slide club

SCAN

Direct contact with the Executive via the website "Ask the expert section"

BAC British Association for Cytopathology

26TH NOVEMBER 2025

Members lunchtime slide club (November 2025)

Time: 12:30 – 13:00

Please Log in to purchase tickets for this event.

More Information

Free to BAC members!

Register to join the new monthly BAC Members Lunchtime Slide Club.

If you have a camera and microscope set up to live stream your case or have digital images please bring them to this session.

Talk through, share or showcase any interesting or challenging cases you might have.

This is an informal space for members to learn, grow and interact with experts.

Register today!

BAC British Association for Cytopathology