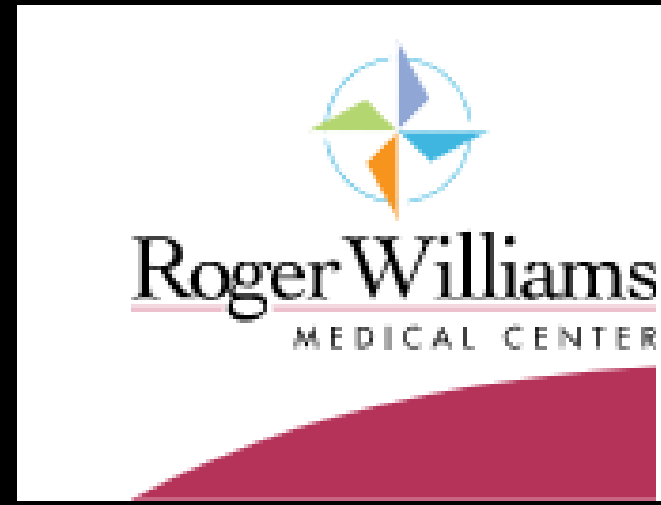




Triple Whammy Hemolytic Anemia: Malaria, Cold and Warm Antibody

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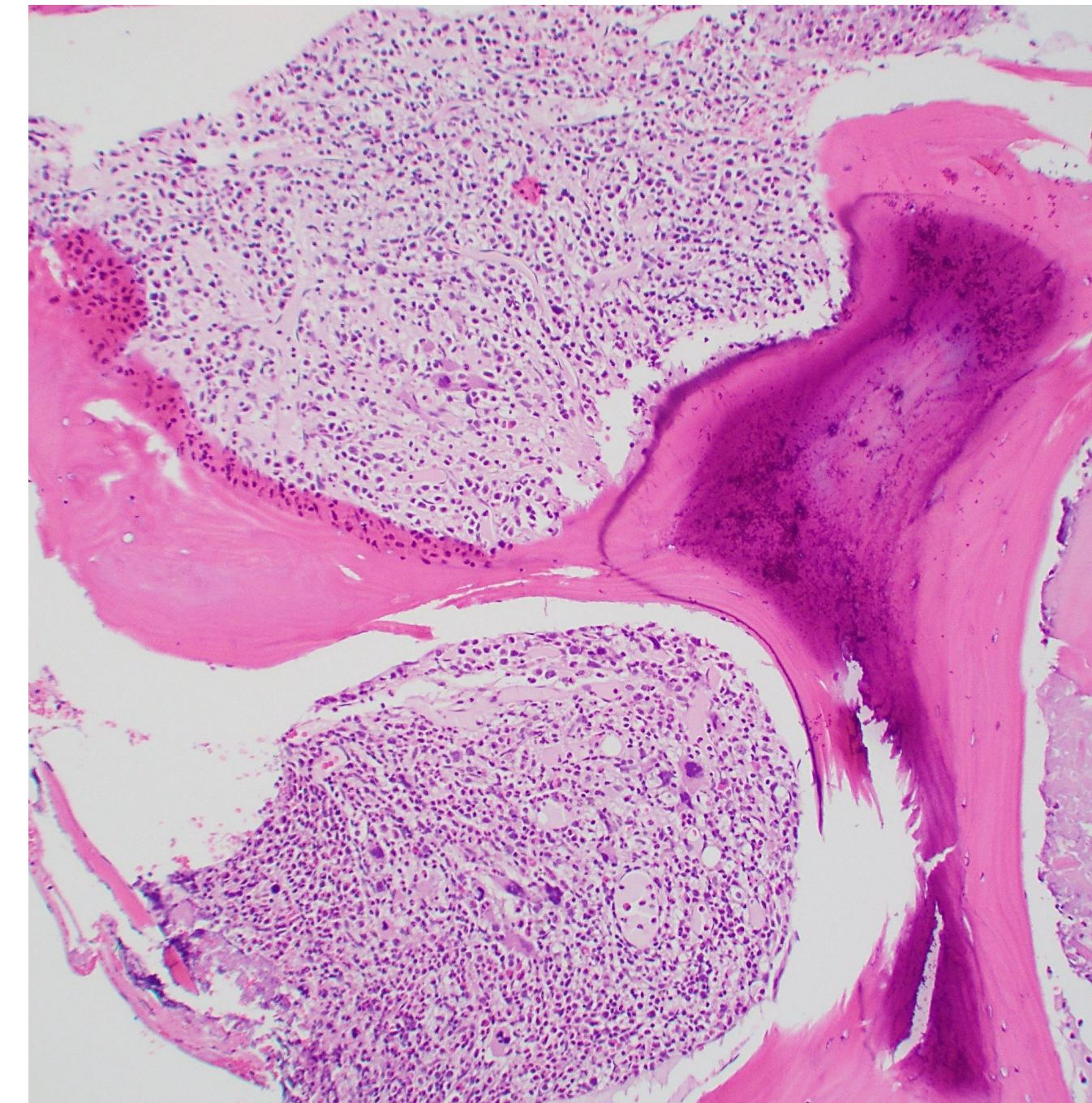
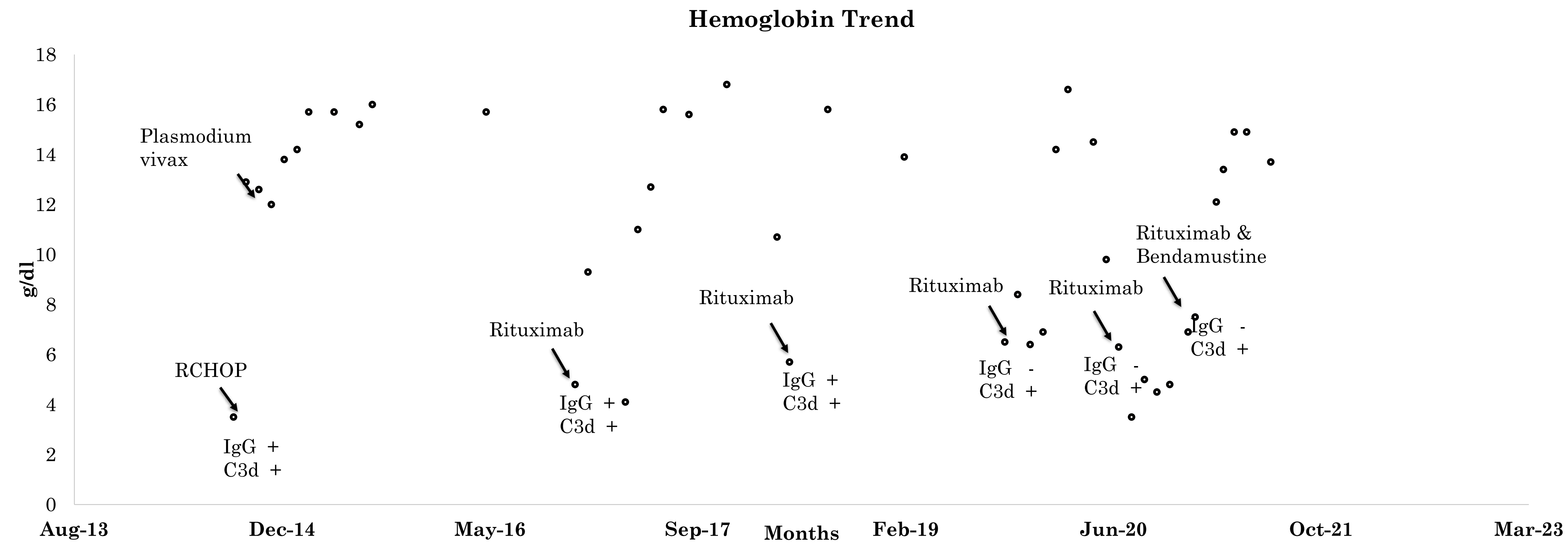
Introduction

- Autoimmune hemolytic anemias (AIHAs) are a group of disorders with warm-, cold-, or mixed reactive antibodies against the red blood cell surface associated with immune-related disorders, infections, and other lymphoproliferative disorders.

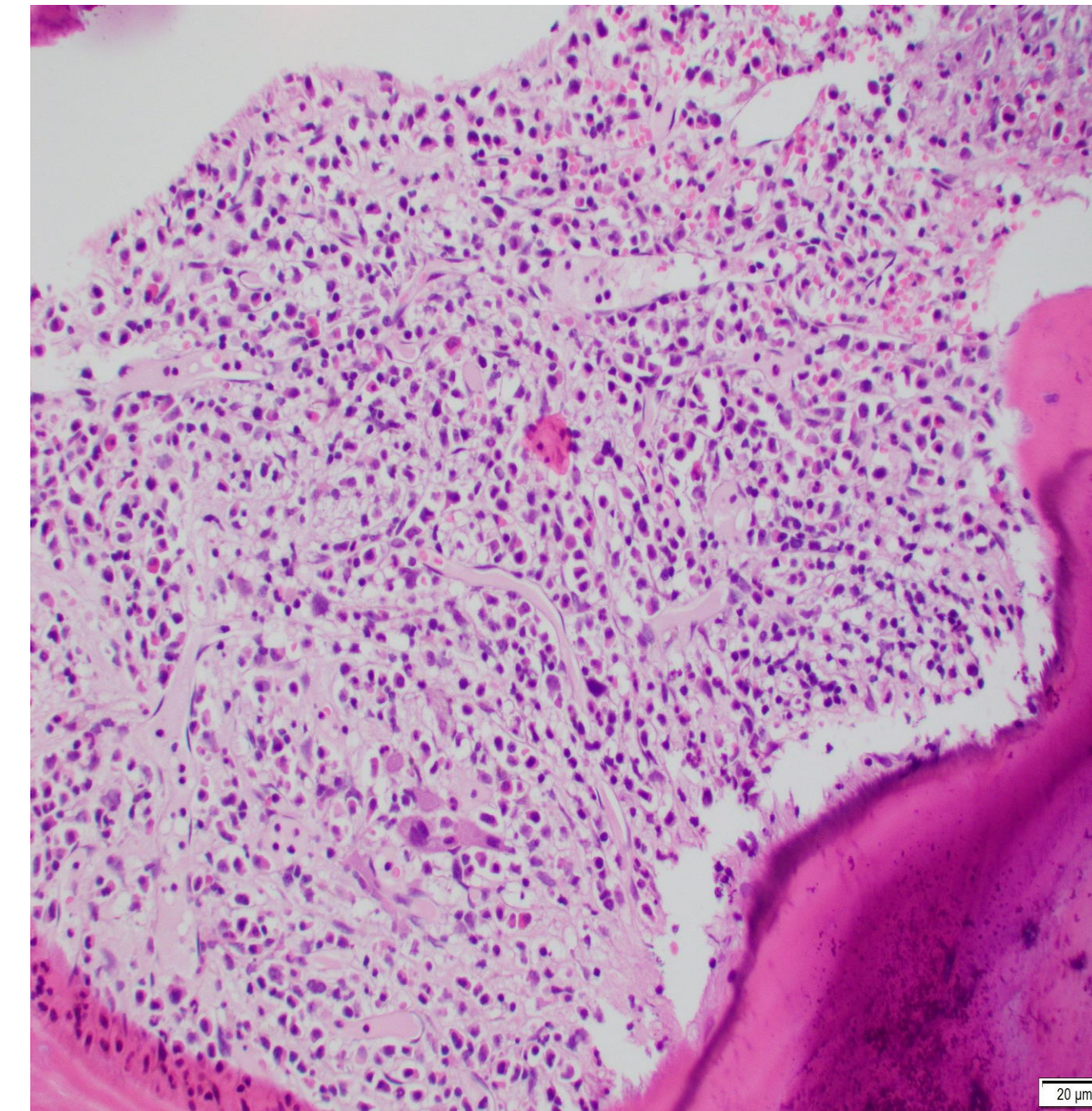
Case Report

- 47-year-old presented with fatigue, evaluation revealed pelvic lymph node enlargement, hemoglobin 3.5 g/dl, indirect bilirubin 1.6 mg/dl, and haptoglobin <30mg/dl, FNAC : Diffuse Large B cell lymphoma.
- Treated with RCHOP, hemolysis improved after 2 cycles.
- Hemolysis developed after 3rd cycle diagnosed to have Plasmodium vivax.
- 2 years later diagnosed to have mixed DAT positive Hemolysis.
- In 2020 diagnosed to have only C3d positive hemolysis.
- Bone Marrow showed lymphoma clonal atypical lymphocytes confirming relapse.
- Received Bendamustine and Rituximab after which hemolysis resolved.
- Imaging done showed resolution of splenomegaly.

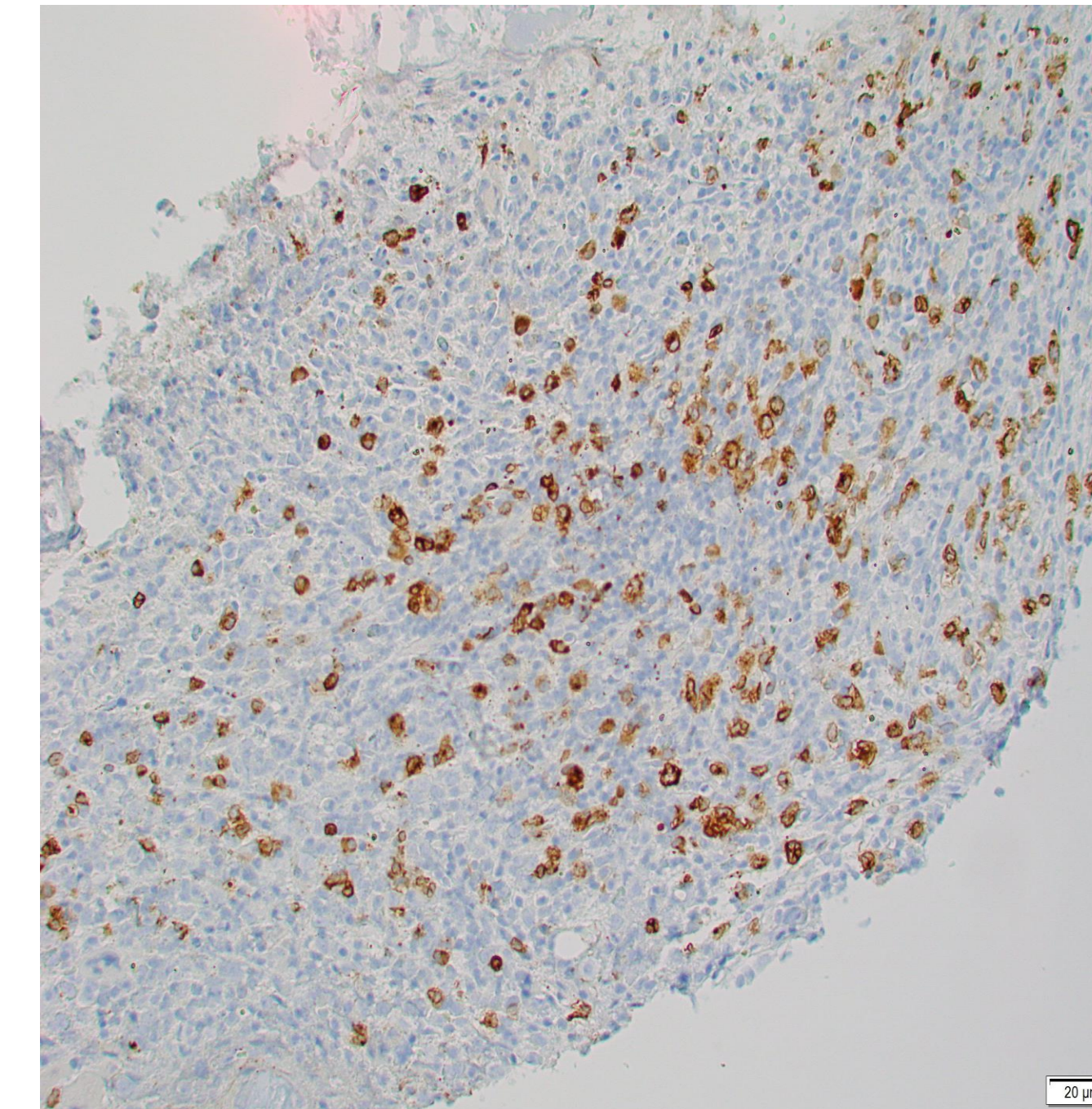
Images/Graph



Bone Marrow Biopsy
Oct 2020



Bone Marrow Biopsy magnified
Oct 2020



Bone Marrow Biopsy CD79a
Oct 2020

Summary

- Immune-mediated hemolytic anemia is a rare cause of anemia in DLBCL.
- More than 80% of cases are due to warm antibodies, and the incidence of cold antibodies is even rarer.
- In our case, initially, IgG warm antibodies and C3d cold antibodies were present; over time, IgG disappeared, and C3d persisted.
- Patient also had hemolysis secondary to Plasmodium reactivation.
- Hemolysis was initially responsive to rituximab monotherapy, upon lymphoma recurrence, treatment with BR regimen resulted in simultaneous lymphoma remission and hemolysis control.
- Non-immune causes of hemolytic anemia and the recurrence of lymphoma should be considered in patients in whom hemolysis persists after treatment.

References

- Zhou, J.C., Wu, M.Q., Peng, Z.M., Zhao, W.H. and Bai, Z.J., 2020. Clinical analysis of 20 patients with non-Hodgkin lymphoma and autoimmune hemolytic anemia: A retrospective study. *Medicine*, 99(7).
- Barcellini, W., Fattizzo, B., Zaninoni, A., Radice, T., Nichele, I., Di Bona, E., Lunghi, M., Tassinari, C., Alfinito, F., Ferrari, A. and Leporace, A.P., 2014. Clinical heterogeneity and predictors of outcome in primary autoimmune hemolytic anemia: a GIMEMA study of 308 patients. *Blood, The Journal of the American Society of Hematology*, 124(19), pp.2930-2936.
- Berentsen, S., Randen, U., Oksman, M., Birgens, H., Tvedt, T.H.A., Dalgaard, J., Galteland, E., Haukås, E., Brudevold, R., Sørbo, J.H. and Næss, I.A., 2017. Bendamustine plus rituximab for chronic cold agglutinin disease: results of a Nordic prospective multicenter trial. *Blood, The Journal of the American Society of Hematology*, 130(4), pp.537-541.