Patient: John Doe

Case No: P11-04121

PRECIPIO EXPECT MORE.
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DOB/Gender: xx/xx/xxxx (56 yrs) - Male
MRN/ID: 123456

Collected: xx/xx/xx
Received: xx/xx/xx
Reported: xx/xx/xx

Provider: Jane Doe, M.D.
Account: Pathology Associates
Phone: 800-123-4567 **Fax:** 800-123-4444

Alert Status: Routine
Report Status: Final
Report Category: Abnormal

Clinical information: Diagnosed with Waldenstrom's macroglobulinemia. Bone marrow done to evaluate pancytopenia. IgM not raised above limit.
Received CBC, reported on 02/23/2011: WBC 14.4; RBC 3.90; HGB 13.3; HCT 37.9; MCV 97.2; MCH 34.1; MCHC 35.1; RDW-CV 13.1%; PLT 256; MPV 9.7; LYM 66.7%; MON NP; NEU 28.6%; EOS NP; BAS NP (NP = not provided)

Specimens received: 1 H&E-stained slide & 15 unstained slides

SmartPath Consult

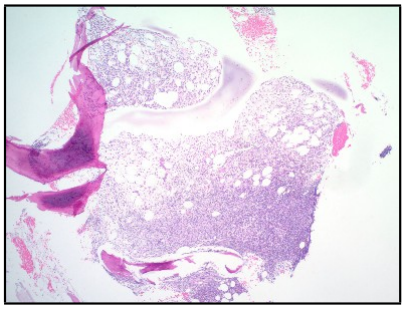
Professional Services Provided By Yale SCHOOL OF MEDICINE

DIAGNOSIS:

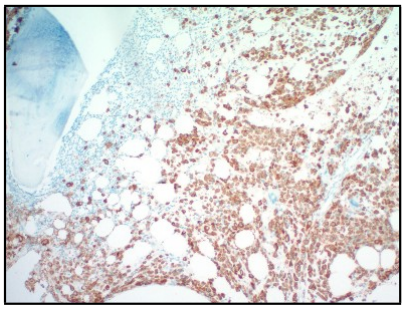
Embedded tissue (#S11-07265), bone marrow, trephine biopsy: Hypercellular bone marrow with atypical CD8+ T-cell infiltrate and absent erythropoiesis, see comment.

COMMENT:

The bone marrow displays an atypical lymphoid infiltrate which invades the bone marrow in both an interstitial and nodular pattern. Stains for MPO demonstrate good myelopoiesis, but stain for CD71 demonstrates absent erythropoiesis consistent with the diagnosis of pure red cell aplasia. Histologic features characteristic of Lymphoplasmacytic Lymphoma are not appreciated, and CD138 stains rare scattered plasma cells.


Nodular and Diffuse Lymphocytosis

In contrast, the atypical lymphoid infiltrate is principally comprised of CD3+, CD8+, CD56- T-cells with a smaller proportion of accompanying CD4+ T-cells in the nodular aggregates. The interstitial T-cell infiltrate is almost entirely comprised of CD8+ T-cells. Pax5+ B-cells are also present in the nodular lymphocytic infiltrate, and may represent residual non-Hodgkin B-cell lymphoma, but is less concerning as an etiology that could morphologically account for the patient's reported cytopenias.


Well Developed Myelopoiesis

In summation, the bone marrow exhibits an atypical T-cell infiltrate mainly comprised of CD8+ T-cells in both an interstitial and densely nodular pattern, with a complete absence of erythropoietic islands but preservation of myelopoiesis. These features are most suggestive of a pure red cell aplasia secondary to an atypical drug reaction inducing a cytotoxic T-cell response. Other etiologies to be ruled out include nutritional deficiencies (iron, B12, folate, ethanol intake), thymoma, viral infections (parvo b19), auto-immune disease, and myelotoxic therapy. In the absence of the above etiologies, a presumptive diagnosis of myelodysplastic syndrome (refractory anemia over 6 months) may be considered.

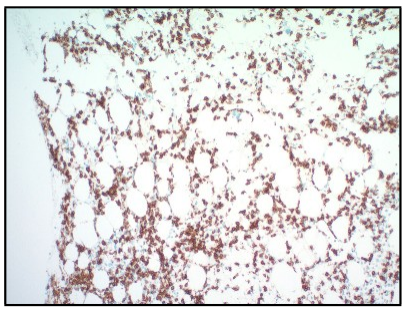
Case discussed with Dr. Doe by Dr. Hudnall.

Electronically Signed By: S. David Hudnall, MD, FCAP

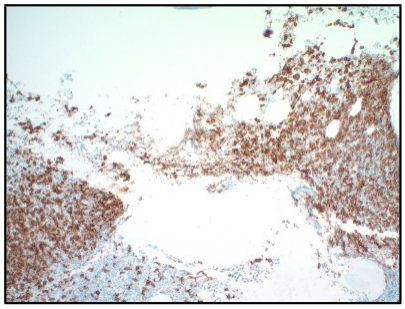
Medical Director: S. David Hudnall, MD, FCAP CLIA #: 07D2030009 CT state license #: CL-0679

IMMUNOHISTOCHEMISTRY RESULT:

Stain	Result
CD4	See microscopic description
CD8	See microscopic description
CD10	Technically unsatisfactory
CD5	Absent in B-cells
CD56	Absent in lymphocytes
BCL-1	Absent in lymphocytes
CD3	See microscopic description
CD34	No increase in blasts
CD71	Absent erythropoiesis
CD138	Rare single plasma cells
Kappa by ISH	Rare polyclonal plasma cells
Lambda by ISH	Rare polyclonal plasma cells
MPO	Good myelopoiesis
PAX-5	See microscopic description



CD8+ T-cell Infiltrate: Interstitial



CD8+ T-cell Infiltrate: Nodular

GROSS DESCRIPTION:

Received on 6/12/2011 from Pathology Associates are 1 H&E-stained and 15 unstained slides labeled S11-07265-A1.

Disclaimer: The adequacy of staining is verified by the appropriate positive & negative controls. The reagents used for these assays are analyte specific reagents (ASR). Their performance characteristics have been validated by Precipio Diagnostics, LLC, New Haven, CT. They have not been reviewed by the FDA. The FDA has deemed that such approval is unwarranted. These assays are for clinical use and should not be viewed as experimental or "research use only".

END OF REPORT

Medical Director: S. David Hudnall, MD, FCAP CLIA #: 07D2030009 CT state license #: CL-0679