

Subject ID: LM00016  
Pathology Report Date: 11/3/00  
Pathology Report Summary

**PATIENT HISTORY:**

The patient is a 51-year-old female with history of intermittent fevers since 4/2000. She has a past medical history of fibroid uterus.  
Bone marrow is to rule out blood disorder.

**PRE OP DIAGNOSIS:** Rule out blood disorder.

**PROCEDURE:** Bone marrow aspirate and biopsy.

**FINAL DIAGNOSIS:**

PART 1: Peripheral Blood

Lymphopenia (by report)

PARTS 2

AND 3: Bone marrow, biopsy and aspirate

Normocellular marrow with myeloid predominance and plasmacytosis.

**COMMENT:**

A plasmacytosis is evident along with a myeloid predominance. Immunohistochemical stains demonstrate numerous lambda positive plasma cells; these findings are worrisome for the presence of a plasma cell dyscrasia. Clinical correlation recommended. Flow cytometric immunophenotypic studies are compatible with the marrow findings.  
Cytogenetic studies pending.

**GROSS DESCRIPTION:**

Part 2A, received in formalin and transferred into B5 fixative on 11/3/00 at 11:00, is labeled "bone marrow biopsy" and consists of a single core of pale, cancellous bone, measuring 1.8 x 0.2 cm. The specimen is submitted to Histology for decalcification.

The specimen is entirely submitted in B5 fixative labeled BM. This case contains an aspirate, biopsy, flow cytometry and cytogenetics.

**MICROSCOPIC:**

**PERIPHERAL BLOOD:**

The following CBC is from 11/2/00

	Patient	Normal Range
	Value	Male/Female
WBC	7.9 x10E+9/L	(3.8- 10.6)
RBC	3.79 x10E+12/L	(4.13- 5.57/3.73-4.89)
Hgb	11.7 g/dl	(12.9- 16.9/11.6-14.6)
Hct	32.9 %	(38.0- 48.8/34.1-43.3)
MCV	86.6 fl	(82.6- 97.4)
MCH	31.0 pg	(27.8- 33.4)
MCHC	35.7 gm/dl	(32.7- 35.5)
RDW	13.7 %	(11.8- 15.2)
PLT	319.0 x10E+9/L	(156- 369)

<u>Peripheral Blood Differential</u>		<u>ABS. No.</u>	<u>Normal Range (Abs)</u>
POLYS	82%	(6.40)	( 2.24-7.68)
LYMPHS	9%	(0.90)	( 0.80-3.65)
MONOS	8%	(0.70)	( 0.30-0.90)
EOS	1%	(0.10)	( 0.00-0.40)

The peripheral blood smear was not available for review.

#### BONE MARROW:

The marrow aspirate smears are adequate for interpretation (2 aspirate smears reviewed). Evaluation of the bone marrow biopsy includes review of an H&E stain as well as a PAS stain which is done, in part, to highlight the myeloids and megakaryocytic elements, further evaluate the myeloid: erythroid ratio and evaluate the underlying bone marrow stroma. The marrow biopsy is adequate for interpretation.

<u>Bone Marrow Differential</u>	<u>Patient Value</u>	<u>Adult Mean</u>	<u>Normal Range</u>
Blast	0.3%	1.0	( 0.0-2.0)
Promyelocyte	6.3%	3.0	( 2.0-4.0)
Myelocyte	19.0%	12.0	( 8.0-16.0)
Metamyelocyte	14.7%	17.0	( 10.0-25.0)
Band	16.3%	12.0	( 9.0-18.0)
PMN	12.0%	9.0	( 7.0-14.0)
Eos Myelo/Meta	0.3%	2.0	( 1.0-4.0)
Eos Band	0%	1.0	( 0.0-3.0)
Sos Beg	2.7%	1.0	( 1.0-2.0)
Basophil	0%	0.0	( 0.0-0.2)
Monocytes	0.3%	1.0	( 0.0-2.0)
Pronormoblasts	1.3%	1.0	( 0.0-1.0)
Normoblasts	14.3%	24.0	( 16.0-32.0)
Lymphocytes	5.0%	16.0	( 11.0-23.0)
Plasma Cells	7.3%	2.0	( 0.0-3.0)
Other	0%		
Myeloid/Erythroid(ratio)	4.6	2.4	(1,5-3.3)

Total # of cells counted - 300

The marrow is normocellular for age (50% cellular). The myeloid/erythroid ratio is moderately increased. Erythroid maturation is mildly megaloblastoid. Myeloid maturation is mildly megaloblastoid with retention of primary granules. Plasma cells are increased and include some large and atypical forms. Megakaryocytes are present in normal numbers. The bony trabeculae are unremarkable.

#### PARAFFIN SECTION IMMUNOHISTOCHEMISTRY:

In order to evaluate the plasma cells, paraffin section immunohistologic studies were performed on the bone marrow biopsy.

The following results were found:

<u>antigen/antibody</u>	<u>Usual Reactivity</u>	<u>Result</u>
anti-kappa	B-cell subset	Few positive plasma cells.
anti-lambda	B-cell subset	Numerous positive plasma cells also in clusters.

Immunostains and in-situ hybridization studies frequently use experimental antibodies and probes, therefore the results of these studies should be used in the context of the clinical history, and routine histopathologic analysis.

**HISTO TISSUE SUMMARY/SLIDES REVIEWED:**

Part 1: Bone Marrow Aspirate

Taken: 11/2/2000 18:30 Received: 11/3/2000 09:20

<u>Stain/cat</u>	<u>Block</u>	<u>Stain/cnt</u>	<u>Block</u>
LEUKI x 29	(none)	H&Ex1	ABM
ACUTE x 1	(none)	Kappa x I	ABM
CLLY1 x 2	(none)	Lambda x 1	ABM
		PASx1	ABM

Part 3: Bone Marrow Aspirate for Cytogenetics

**SPECIAL PROCEDURES:**

Flow Cytometry  
Interpretation

Flow cytometric immunophenotypic studies performed on bone marrow demonstrate predominantly heterogeneous T-cells. Admixed are few polyclonal B-cells and maturing myeloid cells.

Results

Cell suspension immunophenotypic studies were performed on bone marrow and two regions were analyzed.

Region 1 represents the small noncomplex cells. (7% of the events)

Region 2 represents the larger noncomplex cells. (2% of the events)

VIABILITY: 100%

<u>Antigen+</u>	<u>B Cells</u>	<u>P1</u>	<u>P2</u>
	<u>Usual Specificity</u>	<u>% Positive</u>	
Kappa+	B cell subset	1	3
Lambda+	B cell subset	2	2
Kappa:Lambda		0.5	1.5
CD19+	B cell	4	3
CD19+/CD5+	B cell subset	1	2
CD20+	B cell	5	1
CD10+	B cell subset	0	
CD22+	B cells	8	13

		T cells	R1	R2
<u>Antigen</u>		<u>Usual Specificity</u>	<u>% Positive</u>	
CD2+		T cell	84	14
CD3±		T cell	70	6
CD5±/CD19-		T cell	68	5
CD7+		T cell	82	4
CD4+/CD8-		T helper	50	11
CD8±/CD4-		T cytotoxic/suppressor	22	1
CD4+/CD8+		T cell subset	1	0
CD4:CD8		T helper:suppressor ratio	2.3	11.0
CD16,CD56+/CD3+		T cell subset	1	0
CD16,CD56+/CD3-		NK cell, other	14	9
CD56+			17	5

		Myeloid	R1	R2
<u>Antigen</u>		<u>Usual Specificity</u>	<u>% Positive</u>	
CD14+		Myeloid,monocyte	0	16
CD15+		Myeloid	7	29
CD33+		Myeloid,monocyte	6	43
CD34+		Stem cell	2	13
CD34+/CD13,33+		Immature myeloid,monocyte	1	12
cd117+		Myeloid stem cell	1	43

		Additional Antibodies	R1	R2
<u>Antigen</u>		<u>Usual Specificity</u>	<u>% Positive</u>	
CD45+		Leukocytes	94	62
HLA DR+		B,Myeloid,Activated T	10	68
CD19+/CD13,33+			0	0
CD7+/CD13,33+			11	1

\*The gates used for these antibodies may differ from those used for the other antibodies because of different fixation and/or permeabilization procedures. Cytoplasmic staining denoted with a "Cyto" can detect both surface and cytoplasmic expression.

Antigen/Antibody

CD1/BL6	CD13/L138	CD33/P67.6	CD138/B-B4
CD2/S5.2	CD14±/MOP9	CD34/8G12	Glycophorin A/D2.10
CD3/SK7	CD15/PM81	CD43/DF-T1	HLA-DR/L243
CD4/SK3	CD15s/CSLex1	CD45/2D1	FMC7/FMC7
CD5/L17F12	CD16/B73.1	CD45RA/L48	Kappa/TB 28-2
CD5/BL1a	CD18/L130	CD45RO/UCHL-1	Lambda/1-155-2
CD7/4H9	CD19/J4.119	CD56/Ncam-l6.2	MPO/H-43-5
CD7/8H8.1	CD20/L27	CD56/MY31	TCR.1, alpha-beta/WT31
CD8/SK1	CD22/S-HCL-1	CD57/HNK-1	TCR, gamm-delta-1/11F2
CD10/SS2/36	CD23/EBVCS-5	CD61/RUU-PL7F12	TdT/HTdT-6
CD11c/S-HCL-3	CD25/3G10	CD103/B-ly7	

This test was developed and its performance characteristics determined by the Flow Cytometry Laboratory at the University of Pittsburgh Medical Center. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1986 (CLIA) as qualified to perform high-complexity testing.

The results of these studies should be used in the context of the clinical history, and routine morphologic analysis

Subject ID: LM00016

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Pathology Report Summary

PREOPERATIVE DIAGNOSIS: Pelvic mass

PROCEDURE: Exploratory laparotomy, Total abdominal hysterectomy, Bilateral salpingo-oophorectomy, peritoneal washings, excision nodule of colon, cholecystectomy

POSTOPERATIVE DIAGNOSIS: Same

CLINICAL HISTORY: Not Given

SPECIMEN:

A: Uterus, tubes and ovaries (FS)

B: Nodule of colon

C: Gallbladder

DIAGNOSIS:

- A. Uterus, tubes and ovaries, hysterectomy and bilateral salpingo-oophorectomy:
- Uterine Leiomyosarcoma (10.0 cm) with diffuse moderate and severe atypis and multifocal coagulative necrosis
  - Highest mitotic rate thirty-seven (37) per ten (10) high power fields, mean rate. Twenty-two(22) per ten (10) high power fields
  - Cervix with squamous metaplasia
  - Proliferative endometrium
  - Right paratubal cysts (gross)
  - Both adnexa with physiologic changes
- B. Nodule from colon
- Fat necrosis
- C. Gallbladder, cholecystectomy
- Chronic cholecystitis, cholesterolosis and cholelithiasis

**GROSS DESCRIPTION:** Three portions

The first portion is labeled "Uterus, tubes and ovaries," The specimen is received in a plastic container and consists of a previously cut, distorted uterus with attached cervix and bilateral fallopian tubes and ovaries. There is no vaginal cuff presented with the specimen. The uterus is 475 grams and from os to fundus 9.5 cm. and at the fundus 8.0 x 8.5 cm. The exocervix is 3.5 cm in diameter. The cervical os is probe patent. The endometrium is tan and smooth, 0.2 cm, in thickness. The myometrium is 1.8 cm. in thickness where it is not distorted. On the posterior aspect of the specimen is a previously cut mass that is 10.0 x 8.0 x 8.0 cm. The cut surface reveals a tan glistening tissue that is friable centrally. Serial sectioning the remaining endomyometrium is unremarkable, The right fallopian tube is 5.5 cm. in length and 0.4 cm. in diameter. The external surface is hyperemic and shows small paratubal cysts. The largest is 0.6 cm. in greatest diameter. The cut surface of the fallopian tube is unremarkable. The right ovary is 3.0 x 2.0 x 0.8 cm. The external surface is pink-tan and glistening. The cut surface reveals a glistening tan tissue and cystic structure. The left fallopian tube is 6.0 cm. in length and 0.5 cm. in diameter. The external surface is hyperemic. The cut surface is unremarkable. The left ovary is 2.5 x 1.8 x 0.8 cm. The external surface is pink-tan and smooth. The cut surface reveals a cystic structure containing a clear and colorless liquid and a hemorrhagic lining that is 1.0 cm. in greatest dimension. Submitted in two cassettes are the portions of tissue used for frozen section. The larger is 2.0 x 1.3 x 0.4 cm.

The second portion is labeled "Nodule from colon," The specimen is received in a plastic container and consists of a nodule with tan soft tissue, 1.0 x 0.8 x 0.8 cm. The cut surface reveals a cystic structure containing cheesy material. The specimen is bisected, totally submitted and labeled "B".

The third portion is labeled "Gallbladder." The specimen is received in formalin and consists of a gallbladder that is 7.0 x 2.0 x 1.3 cm. The serosal surface is bile-stained. The lumen contains multiple cauliflower-shaped gold calculi and a thick green fluid. The largest calculus is 1.5 cm, in diameter and the mucosa shows a gold streaking and is sloughing. The wall is up to 0.3 cm. in greatest thickness. Representative sections are submitted from the gallbladder and labeled "C".

**FROZEN SECTION:**

Leiomyosarcoma, uterus.

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SPECIMEN: Peritoneal washing

MISC. CLINICAL INFORMATION: Pelvic mass

GROSS DESCRIPTION: 500 cc cloudy pink

#### CYTOPATHOLOGIC EVALUATION

DIAGNOSIS: No malignant cells are identified.