TB Clinical Case #3 (Hemato-Oncology)

Patient Name : Alice Thomas (AT)

DOB : 04/15/1956

Date of visit : 05/03/2017

Patient history :

A 61-year old woman, AT, was seen in our emergency department because of leg swelling and back pain. 3 months ago she noticed a mild swelling of her left leg. Three days before this presentation, she felt pain in the back, both flanks, and left leg where the swelling had increased. She came to the emergency department of this hospital.

Personal Medical history:

Arthritis, asthma, hypercholesterolemia, hypertension, and non–insulindependent type 2 diabetes mellitus.
Positive tuberculin skin test was reported.

Personal Surgical history:

Partial colectomy for resection of a stage T1 colon cancer (without adjuvant chemotherapy) 7 years earlier,
Lumpectomy of the left breast
Laparoscopic cholecystectomy
Total abdominal hysterectomy and bilateral salpingo-oophorectomy for benign disease.

Personal habitus:

Patient did not smoke, drink alcohol, or use illicit drugs
She was widowed and of African American ancestry

Family history

Father: Alzheimer's disease and diabetes mellitus.
Mother: heart disease and breast cancer.
A sister: breast cancer.
Brother: hypertension, hypercholesterolemia, and coronary artery disease

Two brothers: diabetes mellitus and died before they were 70 years of age.
Children and grandchildren: healthy.

Medication:

Metformin, triamterene–hydrochlorothiazide, amlodipine, atorvastatin, aspirin, loratadine, and, as
needed, an albuterol inhaler.

Allergies: She had no known allergies

Physical exam:

Blood pressure: 150/77 mm Hg
Pulse: 75 beats per minute
The temperature, respiratory rate, and oxygen saturation are normal.
There is paraspinal tenderness in the lumbar region and mild (1+) nonpitting edema of the left calf and ankle.
The remainder of the examination is normal.

Blood tests:
Hematocrit: 33.8% (reference range, 36.0 to 46.0)
Hemoglobin level 11.3 g per deciliter (reference range, 12.0 to 16.0 g/dL)
Ddimer level: 2079 ng per milliliter (reference range, <500).
The white cell count, differential count, platelet count, red cell indexes, prothrombin time, prothrombin time international normalized ratio, renal and liver function tests and, urinalysis are normal,
Blood levels of electrolytes, calcium, phosphorus, magnesium, glucose, total protein, albumin, and globulin: Normal
Creatine kinase, isoenzymes and troponin I: Negative.
Electrocardiogram shows sinus rhythm with nonspecific STsegment and Twave abnormalities that are more marked than those seen on an electrocardiogram obtained 8 months earlier.

Noninvasive studies of the legs revealed no evidence of deep venous thrombosis.

Radiology exams: (05/03/2017)

CT of the chest with contrast material, in accordance with a pulmonary embolism protocol (CTPE)
Results: A right apical soft tissue lesion (4.0 cm in cross-sectional diameter) that extended into the lateral chest wall was present. Enlarged bilateral axillary lymph nodes (up to 1.8 cm in cross-sectional diameter) were also present and enlarged bilateral hilar lymph nodes (1.0 cm in cross sectional diameter) were present without other mediastinal lymphadenopathy. In the upper abdomen the superior aspect of a large retroperitoneal soft tissue mass measuring 11cm x 7 cm at the level of the renal arteries was identified (incompletely imaged) with hydronephrosis and left renal invasion
(**UPLOAD SLIDES # 9, 10, 11 and 12**).

CT DVT lower extremity: (05/03/2017)
Results: Inferior extent of bulky retroperitoneal mass with hydronephrosis And mesenteric infiltration. (**Upload Slide #13**)

CT of the chest, abdomen, and pelvis: (5/06/2017)
Results: Massive conglomerate of enlarged lymph nodes extending from the level of the celiac axis to below the aortic bifurcation and into the pelvis resulting in marked attenuation of the renal vessels and inferior vena cava, hydronephrosis of the right kidney, and infiltration of soft tissue into the left kidney. The soft tissue abnormality extended into the small bowel mesentery and along the pelvic sidewalls. The liver and spleen were normal, as were all the other abdominal organs and the bowel.
(Upload slides# 14, 15, 16, 17 and 18. If possible, if not we can select only 14, 16, and 18)

Imaging guided aspiration and core biopsy of the retroperitoneal mass: (05/10/2017)

Pathology report: (to be created).

The specimen is composed of tiny fragments of tissue that contain a dense, vaguely nodular infiltrate. The infiltrate consists of small irregular lymphoid cells, which are consistent with centrocytes, and infrequent larger cells with round nuclei and distinct nucleoli, which are consistent with centroblasts, and

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it has areas of compartmentalizing sclerosis and focal extension into adipose tissue. **(Upload slides # 30, 31, 32).**

Immunohistochemical stains show:
The majority of cells were CD20+ B cells that coexpressed BCL6, CD10, and BCL2. There are scattered CD3+ T cells and focal areas with CD21 staining of follicular dendritic cell meshworks
Ki67 staining, the proliferation index is less than 10%.
(Upload slides: 34 and 35)

Flow cytometry:
Shows a population of CD20+CD19+ B cells with faint CD10 expression, no CD5 expression, and monotypic expression of kappa immunoglobulin light chain.
(Upload slide # 36)

Dual color–dual fusion fluorescence in situ hybridization:
The t(14;18) (q32;q21) rearrangement of the *IgH–BCL2* gene was identified.
(Upload slide: 92)

Additional information:
Tumor Type:
Follicular lymphoma, Grade 1-2 of 3, follicular pattern.
CD19+ CD20+ CD10+ BCL2+ BCL6+ Ki67 <10%; CD21+ FDC meshworks throughout .
BCL2-IGH re-arrangement by FISH
Stage : IV

The Follicular Lymphoma International Prognostic Index (FLIPI):

1. age : 61

2. Ann Arbor stage : IV

3. Hemoglobin level : 113 g/L

4. Number of nodal areas : 4

5. Serum LDH level : Normal.

Risk group: Poor (>3 adverse factors)

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Tumor Board #1: 05/15/2017

Physicians attending: (E. P. Hochberg, M.D (Hematology-Oncology), M. Bierer, M.D. (Internal Medicine), MPH, A. Louissaint Jr., M.D. (Hematopathology), Ph.D, V. V. Muse, M.D.(Radiology). K. M. Winkfield, M.D., Ph.D. (Radiation Oncology)

New Patient

Point of discussion:

A 61-year old patient newly diagnosed with an advanced Stage IV Follicular lymphoma, Grade 1-2 of 3 with follicular pattern, is seeking a treatment decision.

Patient summary:

A 61 y/o patient presents [redacted] with leg swelling and back pain that had started 3 days ago with a mild LLE swelling noticed 3 months earlier. Clinical examination, radiology exams and pathology analysis confirm the diagnosis of a stage IV Follicular lymphoma, Grade 1-2 of 3, follicular pattern with BCL2-IGH re-arrangement and more than 3 adverse factors (FLIPI).

Next steps:

- Due to advanced stage IV disease, this patient is not a candidate for definitive radiation therapy.
- Palliative treatment directed at her bulky retroperitoneal disease is considered. However, due to burden of disease elsewhere, systemic therapy is recommended.
- Therapy with rituximab (R) plus cyclophosphamide, vincristine, and prednisone (CVP), (RCVP) is recommended and the patient will be seen after completing six cycles of treatment.

R-CVP regimen every 21 d for six cycles

Rituximab 375 mg/m ^{2} IV on day 1
Cyclophosphamide 750 mg/m ^{2} IV on day 1
Vincristine 1.4 mg/m ^{2} (dose cap at 2 mg) IV on day 1
Prednisone 40 mg/m ^{2} PO on days 1-5.

DR HAMMER !