Multiple Myeloma

Case Presentation

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Case Presentation

• A 64-year-old woman with a five-month history of progressive back pain presented to a local hospital for acute worsening of symptoms

• Imaging revealed numerous lytic lesions and compression fractures of lower thoracic and lumbar vertebrae

• Hematology/Oncology was consulted
• Past medical history
  – Asthma
  – GERD
  – Hypertension
• Past surgical history
  – Tubal ligation
  – Complete hysterectomy and oophorectomy
• Family history
  – No hematologic disorder or malignancy

• Social history
  – Former smoker
• Medications
  – Albuterol and beclomethasone INH
  – Aspirin
  – Atenolol
  – Oxycodone
  – Pantoprazole
• Initial workup revealed:

<table>
<thead>
<tr>
<th>Labs</th>
<th>03/02/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin (g/dL)</td>
<td>11.4</td>
</tr>
<tr>
<td>Creatinine (mg/dL)</td>
<td>0.7</td>
</tr>
<tr>
<td>Calcium (mg/dL)</td>
<td>10.4</td>
</tr>
<tr>
<td>Albumin (g/dL)</td>
<td>3.4</td>
</tr>
<tr>
<td>Beta-2 Microglobulin (mg/L)</td>
<td>6.8</td>
</tr>
<tr>
<td>SPEP / IFE</td>
<td>1.3 g/dL IgA lambda</td>
</tr>
<tr>
<td>Kappa / Lambda = Ratio</td>
<td>4.3 / 91.5 = 0.047</td>
</tr>
</tbody>
</table>
Bone Marrow Aspirate and Biopsy Results

- Bone marrow aspirate and biopsy revealed a hypercellular marrow (90%) with markedly increased abnormal plasma cells (80%)

- FISH analysis:
  - Positive for 17p (TP53) deletion, gain of 4 (FGFR3), gain of 11 (CCND1), deletion of 13q, loss of 14 (IgH)
  - Negative for IgH rearrangement with FGFR3, CCND1, and MAF

- Flow cytometry confirmed lambda light chain restriction
• IgA-lambda multiple myeloma with high-risk cytogenetics
  – International Staging System (ISS) = III
  – Revised-ISS (R-ISS) = III
Patient was started on lenalidomide, bortezomib, and dexamethasone (RVD)

She was referred to the University of Florida for transplant evaluation
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<th>3/30/2017</th>
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</tr>
<tr>
<td>Calcium (mg/dL)</td>
<td>10.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Albumin (g/dL)</td>
<td>3.4</td>
<td>3.9</td>
</tr>
<tr>
<td>β2M (mg/L)</td>
<td>6.8</td>
<td></td>
</tr>
<tr>
<td>LDH (IU/L)</td>
<td></td>
<td>455</td>
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<tr>
<td>SPEP / IFE</td>
<td>1.3 g/dL IgA lambda</td>
<td>&lt;0.1 g/dL IgA</td>
</tr>
<tr>
<td>Kappa / Lambda</td>
<td>4.3 / 91.5</td>
<td>1.4 / 1.2</td>
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• The patient completed three more cycles of RVD induction chemotherapy

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<tr>
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<th>03/30/2017</th>
<th>06/55/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEP / IFE</td>
<td>1.3 g/dL IgA lambda</td>
<td>&lt;0.1 g/dL IgA</td>
<td>Not detected</td>
</tr>
<tr>
<td>Kappa / Lambda</td>
<td>4.3 / 91.5</td>
<td>1.4 / 1.2</td>
<td>1.4 / 1.5</td>
</tr>
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• Overall, she tolerated four cycles of RVD well except for some grade 1 sensory peripheral neuropathy
Pre-transplant bone marrow evaluation revealed a normocellular marrow without evidence of involvement by myeloma

- The patient was in a stringent complete response

On 07/07/2017 she underwent autologous peripheral blood stem cell transplant conditioned with 200mg/m² melphalan

- She tolerated transplant well except for engraftment syndrome manifesting as fevers, hypoxia, and rash
Follow-up

- At the time of this presentation, the patient is 105 days post autologous stem cell transplant
Questions for our faculty and audience:

- In a patient with newly diagnosed multiple myeloma with high-risk cytogenetics:
  - What induction regimen do you chose?
    - Does it vary if the patient is transplant-eligible or ineligible?
  - In transplant-eligible patients, how do you ‘consolidate’ therapy?
    - Single versus tandem transplant, allogeneic transplant, consolidative chemotherapy
  - What is your maintenance therapy strategy?
Thank You