Clinical Case

Sixty-six year’s old male with one year history of chronic liver and kidney disease (stage 3) of undetermined etiology was admitted, to our Ward, for declined renal function with hyperkalemia and right heart failure signs.

Physical examination was remarkable for hepatomegaly, ascites and oedema of the lower limbs.

Full Blood Count

<table>
<thead>
<tr>
<th>Erythrocites (4.5-10.0 x 10^12/L)</th>
<th>4.35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin (12.0-16.0 g/dl)</td>
<td>12.3</td>
</tr>
<tr>
<td>Leucocytes (4.0-11.0 x 10^9/L)</td>
<td>13.80</td>
</tr>
<tr>
<td>Platelets (150-400 x 10^9/L)</td>
<td>244</td>
</tr>
</tbody>
</table>

Coagulation

<table>
<thead>
<tr>
<th>PT (8.0-14.0 sec)</th>
<th>14.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>aPTT (25.0-35.0 sec)</td>
<td>31</td>
</tr>
</tbody>
</table>

Autoimmune panel and viral serologies negative.
Bone marrow aspirate: 5% plasmocytes.

Biochemistry

- Glucose (75-110 mg/dl): 89
- Urea (10-50 mg/dl): 135
- Creatinine (0.6-1.1 mg/dl): 3.5
- Potassium (3.5-5.1 mEq/L): 5.5
- Sodium (136-147 mEq/L): 145
- Calcium (4.05-5.2 mEq/L): 5
- Phosphorus (2.7-4.5 mg/dl): 4.4
- Bilirubin (<1.2 mg/dl): 0.63
- AST (10-31 U/L): 33
- ALT (10-31 U/L): 23
- Ferritin (26-388 ng/mL): 111
- ß2 microglobulin (1090-2530 ng/mL): 15007
- LDH (135-225 U/L): 234
- C-reactive Protein (<3 mg/L): 27.2
- Serum proteins (6.4-8.2 g/dl): 5.5
- Albumin (3.4-5 g/dl): 1.9
- Creatinine Kinase (39-380 U/L): 69
- PBNP (<125 pg/ml): 1357

Proteinuria

- Proteins (<0.15 g/24h): 5.4

ECG: Sinus rythm, low voltage.

Echocardiogram: left ventricle wall thickened with heterogen tissue aspect in favour of infiltrative process.


Liver biopsy – Hepatic deposition of AL amylloid substance.

For systemic AL amyloidosis with heart, liver and kidney involvement, Dexamethasone (100% dose) was started alongside Cyclophosphamide (33% dose) and Bortezomib (100% dose). Despite prompt action the patient died within days.

The clinical case enhances the importance of early investigation and capacity of integrating combined organ involvement and analytical changes to fit one consistent diagnosis.