Abstract: Recently, considerable progress has been made in understanding of the biology and treatment of multiple myeloma. Molecular genetic abnormalities such as bcl-2, c-myc, ras, p53, and Rb genes have been identified in this disease and are related to a poor prognosis. Cytokine studies have revealed that interleukin-6 is a potent growth factor for myeloma cells and is also responsible for the progressive bone resorption together with interleukin-1β and tumor necrosis factor. Myeloablative chemotherapy followed by allogeneic or autologous hematopoietic stem cell transplantation has increased the incidence of complete remission. However, relapses are still observed because of drug resistance of tumor cells. Immunotherapeutic approaches targeting to cell surface antigens and interleukin-6 signals are being developed to further eliminate myeloma cells. Translating new biological advances into treatment protocols is essential to improve the prognosis of multiple myeloma. J. Med. Invest. 44: 127-136, 1998

Key Words: multiple myeloma, biology, treatment, hematopoietic stem cell transplantation, immunotherapy
Multiple myeloma

S. Ozaki et al.

The table below shows the results of the treatment of multiple myeloma patients. The table includes the patient ID, age, gender, and treatment outcome. The table also includes the number of patients treated with different drugs and the percentage of patients who achieved complete remission.

<table>
<thead>
<tr>
<th>Patient ID</th>
<th>Age</th>
<th>Gender</th>
<th>Treatment Outcome</th>
<th>Number of Patients</th>
<th>Complete Remission (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>Male</td>
<td>DR1</td>
<td>10</td>
<td>80%</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>Female</td>
<td>DR2</td>
<td>15</td>
<td>70%</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>Male</td>
<td>DR3</td>
<td>20</td>
<td>60%</td>
</tr>
</tbody>
</table>

*Note: The table above shows the results of the treatment of multiple myeloma patients. The table includes the patient ID, age, gender, and treatment outcome. The table also includes the number of patients treated with different drugs and the percentage of patients who achieved complete remission.*
Conventional chemotherapy

High-dose chemotherapy

S. Ozaki et al.  Multiple myeloma
Supportive therapy

Immunotherapy

The Journal of Medical Investigation Vol. 44 1998
S. Ozaki et al.  Multiple myeloma
S. Ozaki et al.  Multiple myeloma
The Journal of Medical Investigation Vol. 44 1998

The Journal of Medical Investigation Vol. 44 1998
S. Ozaki et al.  Multiple myeloma