Department of Internal Medicine
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General Summary

The Division of Hematology and Oncology and the Division of Clinical Oncology were merged into the new Division of Clinical Oncology/Hematology on September 1, 2006. The immediate goals of our clinical and basic research are to investigate malignant diseases and improve outcomes for patients with hematological malignancies and solid tumors, leading to the final goal of improving the natural history of malignant diseases. We performed several clinical trials and basic research studies in 2006.

Research Activities

Leukemias

We have conducted clinical trials as a member of the Japan Adult Leukemia Study Group (JALSG) for acute myeloid leukemia (AML), acute lymphoblastic leukemia (ALL), and chronic myeloid leukemia (CML). The JALSG AML206 protocol was developed to investigate gemtuzumab ozogamicin, a novel fusion agent comprising calicheamycin and a humanized monoclonal antibody to CD33, combined with cytarabine and idarubicin or daunorubicine for the treatment of relapsed or refractory adult AML. The JALSG AML201 VAL4 study was also performed to examine the correlation between expression of VAL4 molecules and the prognosis of patients with untreated adult AML. The JALSG performed a clinical trial, including our 3 patients, using a combination of standard induction chemotherapy and imatinib mesylate for Philadelphia-chromosome-positive (Ph+) ALL. The complete remission rate was 96%, and the event-free survival rate was 50%, which were both significantly higher than in previous studies. The results were reported in the Journal of Clinical Oncology (2006: 24: 460).

Phase I/II studies using nilotinib and dasatinib were also performed in patients with chronic-phase CML.

Lymphomas

We have performed clinical trials as a member of the Lymphoma Study Group of the Japan Clinical Oncology Group (JCOG-LSG). A phase I/II study of combined-modality therapy consisting of the DeVIC regimen (dexamethasone, etoposide, ifosfamide, and carboplatin) and radiotherapy for localized nasal natural killer/T-cell

lymphoma has recently been completed. We enrolled 1 patient, and the therapeutic result was satisfactory. The JCOG-LSG developed a new regimen named R-EPOCH, which is a combination of rituximab and the EPOCH regimen (etoposide, prednisone, vincristine, cyclophosphamide, and doxorubicin), for a phase II study in patients with relapsed or refractory B-cell lymphoma. The study is now open for enrollment.

Myeloma

We examined the efficacy of the combination therapy of thalidomide and dexamethasone in a pilot study, and the target number of patients has been enrolled.

Hematopoietic stem cell transplantation

We have been investigating the efficacy of hematopoietic stem cell transplantation for hematological malignancies since the 1980's. The mechanisms of graft-versus-host disease encountered in hematopoietic stem cell transplantation were studied in 2006.

Solid tumors

Several of our protocols have been running throughout our university hospital, as we seek improved therapeutic outcomes in cooperation with related divisions or departments. The FEC100 regimen (5-fluorouracil, 500 mg/m^2, epirubicin, 100 mg/m^2, and cyclophosphamide, 500 mg/m^2) with or without docetaxel is an adjuvant therapy for patients with breast cancer after curative resection. FEC100 followed by docetaxel is a preoperative combination chemotherapy for patients with locally advanced breast cancer. AT followed by docetaxel and Herceptin is a first-line chemotherapy for patients with advanced metastatic breast cancer. A cooperative phase II study of lapatinib covering dual inhibition of epidermal growth factor receptor transmembranously was performed in our division, and 3 patients were enrolled. The standard care for operable, locally advanced esophageal cancer has been altered, resulting in the use of chemoradiation therapy instead of surgical resection. Therefore, since 2002 we have been investigating a combined-modality therapy of radiation and combination chemotherapy with low-dose cisplatin and 24 hours' continuous infusion of flurouracil (5-FU) for such patients. The results will be reported next year. For patients with advanced gastric cancer, the combination chemotherapy of S-1 and cisplatin has been administered. The regimens FOLFOX (leucovorin, 5-FU, and oxaliplatin) and FOLFIRI (leucovorin, 5-FU, and irinotecan) have been our front-line chemotherapy regimens for patients with advanced colorectal cancer. Other important activities include palliative care using analgesic agents and consultation regarding psychiatric disorders accompanying cancer.

Basic research

One of our pivotal schemes is translational research covering hematological malignancies and solid cancers. The structural differences between the M protein produced by myeloma cells and that produced by malignant gastric ulcers have been examined, and the function of ATP-binding cassette transporter in cancer chemotherapy was studied in collaboration with the Kyoritsu University of Pharmacy.

Publications

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