

Thalidomide combats myeloma blood cancer

Although recently developed drugs have made many cancers survivable, multiple myeloma has resisted scientists' best efforts. The likelihood of a patient withstanding this blood-cell cancer for 5 years remains less than 1 in 3—as it has been for 3 decades.

Now, the notorious anti-nausea drug thalidomide is demonstrating power that outclasses standard chemotherapy against myeloma. Banned in the 1960s for causing birth defects, thalidomide more recently has been shown to cure mouth ulcers and relieve complications of leprosy (SN: 11/11/95, p. 311; SN: 8/15/98, p. 111).

Thalidomide prescribed in gradually increasing doses brought about improvements in 27 of 84 multiple myeloma patients in whom standard treatments had failed, scientists report in the NOV. 18 NEW ENGLAND JOURNAL OF MEDICINE.

The researchers at the University of Arkansas for Medical Sciences in Little Rock tracked the effects of thalidomide for a year by testing patients' blood and urine monthly for unusual proteins associated with the myeloma. After the year, 2 of the 84 patients were free of these proteins, indicating the cancer was in complete remission.

Six others showed declines in the proteins to less than a 10th of the abnormally high concentrations seen after the patients failed chemotherapy. In 19 others, the concentrations fell at times to less than three-quarters of what they had been, says coauthor Seema Singhal, an oncologist now at the University of South Carolina Cancer Center in Columbia.

The other 57 patients didn't respond to the thalidomide or couldn't take the side effects. Many patients encountered constipation, nausea, dizziness, or rashes from the drug, and it made some so sleepy that doctors cut back their dose.

Twelve of the 27 patients who showed progress later relapsed, and 6 died. Of the other 57 patients, 30 died.

Despite the side effects and spotty success, the study suggests that thalidomide might work more consistently if it were chemically altered slightly, given in different doses, or given to healthier patients, Singhal says.

"This is a very exciting finding—more for the potential it opens up than for the actual results," says William I. Bensinger of the Fred Hutchinson Cancer Research Center in Seattle. "These responses were relatively low. But the fact that they occurred in patients who had demonstrated disease resistant to [chemotherapy and other treatments] was remarkable."

Chemotherapy for this myeloma destroys cancerous cells in bone marrow, where white blood cells are made, but it also kills healthy cells there. "It's like a sledgehammer," Singhal says. Moreover, while chemotherapy can slow the myeloma, it doesn't cure the cancer, says study coauthor Bart Barlogie, a hematologist and oncologist at Arkansas. "Thalidomide really represents the first new class of drugs [for this myeloma] in about 35 years," he says.

Thalidomide inhibits the formation of new blood vessels, which are essential to tumor growth. It isn't clear whether the drug actually prevents vessel growth in the marrow of these myeloma patients.

Barlogie is now beginning a randomized trial to compare standard myeloma treatment with a combination of standard therapy and thalidomide.

—N. Seppa