

BIOMEDICINE

From San Francisco, at the American Society of Hematology's 42nd annual meeting.

Old and new drugs may fight myeloma

Two therapies may improve survival chances of people with a bone marrow cancer called multiple myeloma. At the least, they could delay the day when patients need to undergo a bone marrow transplant, a harsh procedure that carries lethal risks, say researchers.

A team at the Mayo Clinic in Rochester, Minn., reports that 6 of 16 patients with no outward symptoms of their multiple myeloma improved after treatment with the drug thalidomide. Moreover, 20 of 26 patients with worsening cases of the disease showed gains after receiving thalidomide with dexamethasone, a steroid often administered in such cases, reports S. Vincent Rajkumar, a hematologist at the clinic. The researchers classified patients as improved if, after four monthly treatments, they showed normal concentrations of the white blood cells called plasma cells.

Most countries banned thalidomide decades ago because, when taken during pregnancy, it causes birth defects by restricting blood flow to the fetus. This property also stymies growth of tumor cells (SN: 11/20/99, p. 326), making it a potential weapon against cancer, Rajkumar says.

Taking another approach, researchers are examining a new drug called PS-341. It interferes with proteasomes, molecules in cells that are responsible for clearing out damaged proteins. This interference induces programmed cell death, or apoptosis. Animal studies have established that cancerous bone marrow cells are particularly vulnerable to the drug, reports Robert Z. Orlowski of the University of North Carolina at Chapel Hill.

Orlowski and his colleagues gave PS-341, also called LDP-341, to three people with multiple myeloma. Two showed little gain, but the third remains free of detectable cancer cells more than 3 months after receiving four treatments of the drug.

A single patient's recovery doesn't prove a drug works, but it indicates that the biological mechanism of PS-341 might be useful against this and other cancers, Orlowski says. Millenium Pharmaceuticals of Cambridge, Mass., plans further tests.

—N.S.