



Multiple Myeloma (MM) U.S. Fact Sheet

Overview

Multiple myeloma is a life-threatening cancer of plasma cells, a type of white blood cell in the bone marrow that helps fight infection.¹ When plasma cells become cancerous and multiply too quickly, they are called myeloma cells.¹ The accumulation of these myeloma cells can form tumors in bones throughout the body.¹

Healthy bone marrow produces stem cells that develop into red blood cells that carry oxygen in the body, white blood cells that fight infection and disease, or platelets that help prevent bleeding by causing blood clots.² Health problems caused by multiple myeloma can affect the bones, immune system, kidneys and blood cell counts.²

Multiple myeloma is characterized by a recurring pattern of remission and relapse.³ Remission in multiple myeloma occurs when no signs or symptoms are present.⁴ A relapse occurs when signs or symptoms of the disease return after a period of improvement.⁵ The ability to achieve and sustain a meaningful response to treatment declines with each relapse due to acquired drug resistance and disease biology.⁶ When a disease is refractory, it no longer responds to treatment.⁵

Incidence

Nearly 230,000 people worldwide are living with multiple myeloma, making up about 12 percent of all hematologic malignancies.⁷ In 2012, approximately 89,650 people in the U.S. were living with multiple myeloma.⁹ An estimated 26,850 people in the U.S. will be diagnosed with multiple myeloma in 2015, and about 11,200 will lose their life to the disease.⁹

Symptoms

The exact cause of multiple myeloma is not known and symptoms often do not present in the early stages of the disease, making an early diagnosis very difficult.¹ Symptoms and signs of multiple myeloma may include, but are not limited to:

- Abnormal bleeding¹
- Bone and/or back pain¹
- Bone fractures involving the spine, hip bones and skull¹
- Low blood counts¹
- High blood levels of calcium¹
- Nervous system symptoms, including spinal cord compression, nerve damage and hyperviscosity¹
- Kidney problems¹
- Infections¹

Risk Factors

Similar to symptoms, scientists have found few risk factors that may affect someone's chances of getting multiple myeloma.¹ The most common risk factors are:

- **Age:** The disease occurs most frequently in people 65-74.⁹
- **Family History:** Having an immediate relative with multiple myeloma increases the risk four-fold¹
- **Gender:** In the U.S., incidence is 1.5 times higher among men than women.^{1,9}
- **Radiation:** Exposure to high doses of radiation, largely due to environmental factors¹
- **Race:** More common among people of African descent¹
- **Weight:** Carrying excess body weight¹
- **Having Other Plasma Cell Diseases:** Many people with monoclonal gammopathy of undetermined significance or solitary plasmacytoma will eventually develop multiple myeloma¹

Fast Facts

- *Multiple myeloma is an orphan disease that accounts for approximately one percent of all cancers.⁷*
- *The disease is characterized by a recurring pattern of remission and relapse.³ With each relapse, patients' ability to achieve and sustain a meaningful response declines.⁶*
- *In the U.S., between 10,000 and 15,000 multiple myeloma patients experience a relapse or see their disease become refractory each year.⁸*

Diagnosis

Lab tests on blood and/or urine, imaging tests and a bone marrow biopsy may be performed on people exhibiting multiple myeloma symptoms.

- **Lab tests:** Blood and urine tests can determine if there is an abnormally high amount of protein, which can indicate multiple myeloma¹
- **Imaging tests:** X-ray, MRI, CT or positron emission tomography tests may be performed to detect bone problems associated with multiple myeloma¹⁰
- **Bone marrow biopsy:** Bone marrow biopsies determine if there are myeloma cells in the bone marrow, and can also help analyze their chromosome abnormalities¹⁰

Treatment

While there is no cure for multiple myeloma, treatment can help relieve pain, control complications of the disease, stabilize the condition and slow the progress of the disease.¹ Treatments prescribed for multiple myeloma are largely dependent on the stage of the disease and the individual patient.¹ Treatment options may include one or a combination of the following:

- Chemotherapy and corticosteroids to kill myeloma cells²
- Targeted therapies to block the growth of and sometimes kill myeloma cells²
- Bone marrow or stem cell transplantation to replace the diseased cells²
- Bisphosphonates to reduce bone pain and fractures²
- Radiation therapy to relieve bone pain or treat bone tumors¹

Additional Resources

For patients living with multiple myeloma, and their families, a number of valuable resources are available in the U.S.:

- International Myeloma Foundation – www.myeloma.org
- Multiple Myeloma Research Foundation – www.themmr.org
- The Leukemia & Lymphoma Society – www.lls.org
- American Cancer Society – www.cancer.org
- American Society of Hematology – www.hematology.org/patients/
- Lymphoma Foundation of America – www.lymphomahelp.org
- Institute for Myeloma & Bone Cancer Research – www.imbcr.org
- Patients Against Lymphoma – www.lymphomation.org

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