The Connection Between Multiple Myeloma and Amyloidosis

by PAULA CLARK

Multiple Myeloma and Amyloidosis

Two malignant plasma cell disorders: one is cancer, one is not.

Both have overlapping risks, causes and impact. Both start in the bone marrow. Both are rare and potentially fatal.

Understanding the difference between multiple myeloma and amyloidosis could save your life. But before sharing a patient's story that explains why, I'll tell you what they are.

What You Need to Know About Multiple Myeloma vs Amyloidosis

Multiple myeloma is a rare blood cancer. It affects plasma cells found in the bone marrow, where your blood is made. When the abnormal plasma cells crowd out healthy cells, "they let too much protein (called immunoglobulin) into your bones and blood." The protein spreads and then damages organs. The abnormal plasma cells, "also send out chemicals that trigger other cells to eat away at your bones."

Amyloidosis also affects plasma cells, but it's not cancer. Abnormal immunoglobulin proteins called amyloid deposits clump up in tissues or organs. The excess protein damages organs causing organ failure, mainly in the heart, kidneys and gastrointestinal tract.

There are several kinds of amyloidosis: AL (light chain) is the most common. AA or autoimmune amyloidosis occurs as a reaction to another disease, like chronic inflammation or infection. Hereditary amyloidosis is caused by a gene mutation. "Wild type" is related to aging and sometimes starts with the symptoms of carpal tunnel syndrome before moving to the heart. There are other types of amyloidosis, but common to all cases is an overproduction of abnormal proteins.

What Are the Symptoms of Multiple Myeloma and Amyloidosis?

You can see how they could be mixed up.

Both diseases affect plasma and create abnormal proteins that cause organ damage. Both are a greater risk for older people and men. Additionally, about 10 to 15% of multiple myeloma cancer patients also develop amyloidosis, which will affect what treatments to use for each disease.

So, knowing the symptoms of each is important.

Since the type of amyloidosis that occurs most often with multiple myeloma is AL (light chain), we'll limit our discussion to that type of amyloidosis.

AL amyloidosis symptoms show up in your body where the amyloid deposits are forming.

- In the kidneys, you'll see nephrotic syndrome, or chronic kidney disease. Patients may develop edema (swelling) in the legs, abdomen, arms and lungs and/or need dialysis to help their kidneys function.
- In the heart, amyloid deposits can thicken the walls of the heart causing shortness of breath with minor activity, or cause arrhythmia (causing your heart to beat faster or slower than normal).
- In the gastrointestinal tract, the deposits can cause "nausea, diarrhea or constipation, weight loss, loss of appetite, or a feeling of fullness in the stomach after eating small amounts".
- In the nervous system, amyloidosis can cause numbness or tingling in the hands, lower legs and feet. You may also lose sensitivity to temperature (peripheral neuropathy) or develop autonomic neuropathy, leading to dizziness when you stand up quickly, nausea and diarrhea.

General symptoms of amyloidosis include chronic fatigue, weakness and purpura (bruising). Patients may also experience swelling in the joints, causing problems like carpal tunnel syndrome. Deposits can also affect the tongue causing a condition called macroglossia. And finally, there's a symptom called the "shoulder pad", where amyloid deposits enlarge the shoulders, restricting the joint with swelling.

Multiple myeloma symptoms can also show up in many parts of the body.

The Canadian Cancer Society shares a handy acronym called CRAB to help identify symptoms:

- High blood **calcium** level (hypercalcemia)
- **Renal** insufficiency (kidney problems)
- **Anemia**
- **Bone** disease

More specifically, symptoms could show up as:

- Bone pain related to bone fractures that occur most commonly in the back, front of the chest, ribs, hips or skull.
- Bone weakness, which can lead to osteoporosis (a condition where bones lose mass, or density, and the bone tissue breaks down).
- Fatigue, weakness, shortness of breath, dizziness and paleness caused by low red blood cell counts (called anemia).
- Frequent infections, including pneumonia (an infection of the lung) related to low white blood cell counts (called neutropenia).
- Fever (related to an infection).
- Nosebleeds, bleeding gums, a lot of bleeding from minor cuts or scrapes, or a lot of bruising caused by low platelet counts (called thrombocytopenia).
- Higher than normal levels of protein in the blood or urine.
- Extreme thirst, a need to urinate often, dehydration, kidney problems including kidney failure, constipation, loss of appetite, abdominal pain, weakness, drowsiness, confusion, nausea and vomiting, or lethargy caused by high levels of calcium in the blood (called hypercalcemia).
- Nervous system problems, including sudden and severe pain, numbness and tingling, muscle weakness, paralysis, confusion, and dizziness. Some of these symptoms may be related to spinal cord compression, which is a cancer-related emergency.
- Weight loss.
- Headaches, dizziness, weakness, drowsiness, fatigue, oozing from cuts, blurred vision, bruising and symptoms of a stroke (weakness on one side of the body and slurred speech) caused by a thickening or stickiness of the blood (called hyperviscosity).
- Weakness, shortness of breath, itching and swelling caused by kidney problems.

What Should I Do if I Have Symptoms?

Fortunately, it's not your job to figure out what your symptoms are about. That's what your doctor is for.

But Kathy Wilson's story shows how important it is to persist when you’re not getting all the help you need.

Kathy overcame amyloidosis and multiple myeloma back in 2003 when amyloidosis was less well known. She was first diagnosed with multiple myeloma when she was 55 years old. She noticed the gradual onset of ankle swelling and heart palpitations, which seemed odd given her workout routine and also could have been related to menopause. What finally showed a definitive problem was some routine blood work ordered by her gynecologist. Low serum protein levels and high cholesterol (which wasn’t normal for her) indicated kidney disease. After her nephrologist referred her to an oncologist to find out what was causing her kidney problems, she got the multiple myeloma diagnosis.

When her initial round of treatments was only partly successful, she went on a journey to figure out what was going wrong. Six months and several more specialists later she finally got what she needed: a kidney biopsy that found amyloidosis. With that info her team adjusted her drug treatment regime. As of 2010 she was no longer being treated for multiple myeloma or amyloidosis.

The moral of Kathy’s story is this. Complicated diseases may require multiple consultations. Don’t be afraid to seek a second, third or fourth opinion if necessary. Do your research to find the top specialists in your area and be ready to travel if they’re not nearby.

As with any type of cancer, the price for your health is vigilance.