Amyloidosis

Overview

Amyloidosis (am-uh-loi-DO-sis) is a rare disease that occurs when a protein called amyloid builds up in organs. This amyloid buildup can affect the way organs work.

Amyloidosis may affect the heart, kidneys, liver, spleen, nervous system, soft tissue, muscle and digestive tract.

There are many different types of amyloidosis. Some occur with other diseases and improve with treatment. Other types may lead to life-threatening organ failure.

Treatments may include chemotherapy medicines used to treat cancer. Other medicines can reduce amyloid production and manage symptoms. Some people may benefit from organ or blood stem cell transplants.

Symptoms

You may not experience symptoms of amyloidosis until later in the course of the disease. Symptoms may vary, depending on which organs are affected.

Common symptoms of amyloidosis may include:

- Serious fatigue and weakness.
- Shortness of breath.
- Numbness, tingling, or pain in the hands or feet.
- Swelling of the ankles and legs.

Additional symptoms may include:

- Dizziness.
- Low blood pressure.
- Diarrhea, possibly with blood.
- Constipation.
- Nausea and loss of appetite.
- Weight loss.
- An enlarged tongue, which sometimes looks rippled around its edge.
- Skin changes, such as thickening or easy bruising, and dark or purple patches around the eyes.

When to see a doctor

See your healthcare professional if you regularly experience any of the symptoms associated with amyloidosis.

Causes

There are many different types of amyloidosis. Some types are hereditary. Others are caused by outside factors, such as inflammatory diseases or long-term dialysis. Many types affect multiple organs. Others affect only one part of the body.

Types of amyloidosis include:

- **AL amyloidosis, also called immunoglobulin light chain amyloidosis.** This is one of the most common types of amyloidosis in developed countries. AL amyloidosis used to be called primary amyloidosis. It often affects the heart, kidneys, liver and nerves. It can be associated with multiple myeloma or other blood conditions.
- **Wild-type ATTR amyloidosis, also called transthyretin amyloidosis.** This type also has been called senile systemic amyloidosis. It occurs when the transthyretin protein, also called TTR, made by the liver produces amyloid for unknown reasons. Wild-type ATTR amyloidosis tends to affect men over age 60 and often targets the heart. It also can cause carpal tunnel syndrome.
- **Hereditary ATTR amyloidosis, also called familial transthyretin amyloidosis.** This inherited condition often affects the nerves, heart and kidneys. It most commonly happens with changes to the TTR protein made by your liver. This altered protein is passed down through families.
- **Other hereditary forms of amyloidosis.** There are other hereditary forms of amyloidosis. These are more rare. They can affect different organs, depending on the type and how proteins are affected. Examples include apolipoprotein A-1 amyloidosis, gelsolin amyloidosis and fibrinogen amyloidosis.
- **AA amyloidosis.** This is also known as secondary amyloidosis. It's often triggered by a chronic inflammatory disease, such as rheumatoid arthritis. It most commonly affects the kidneys, liver and spleen.
- **Localized amyloidosis.** This type of amyloidosis has a better prognosis than varieties that affect multiple organ systems. It is, however, not common. Typical sites for localized amyloidosis include the bladder, skin, throat or lungs. Correct diagnosis is important so treatments that affect the entire body can be avoided.

Risk factors

Factors that increase the risk of amyloidosis include:

- **Age.** Most people diagnosed with amyloidosis are over the age of 50.
- **Sex assigned at birth.** Amyloidosis occurs more commonly in men.
- **Other diseases.** Having a chronic infectious or inflammatory disease increases the risk of AA amyloidosis.
- **Family history.** Some types of amyloidosis are hereditary.

- **Dialysis.** Dialysis can't always remove large proteins from the blood. If you're on dialysis, certain proteins can build up in your blood and eventually be deposited in tissue. This condition is less common with more modern dialysis techniques.
- **Race.** People of African descent appear to be at higher risk of carrying a version of the TTR protein that is associated with a type of amyloidosis that can harm the heart.

Complications

Amyloidosis can seriously damage the:

- **Heart.** Amyloid reduces the heart's ability to fill with blood between heartbeats. Less blood is pumped with each beat. This can cause shortness of breath. If amyloidosis affects the heart's electrical system, it can cause heart rhythm problems. Amyloid-related heart problems can become life-threatening.
- **Kidneys.** Amyloid can harm the kidneys' filtering system. This affects their ability to remove waste products from the body. It can eventually cause kidney failure.
- **Nervous system.** Nerve damage can cause pain, numbness, or tingling of the fingers and feet. If amyloid affects the nerves that control bowel function, it can cause periods of alternating constipation and diarrhea. Damage to the nerves that control blood pressure can make people feel faint if they stand up too quickly.

By Mayo Clinic Staff