



## VASOSPASM

An *aneurysm* is an pocket formed in an artery because of a weakened blood vessel wall. About 3 to 5% of the U.S. population has aneurysms. When an aneurysm bursts or ruptures, it causes a subarachnoid hemorrhage (SAH). The surrounding area between the brain and skull fills with blood. Blood flow to the rest of the brain is impaired. This happens suddenly, and symptoms are usually a severe headache, nausea and vomiting, neck stiffness, and vision or speech problems. Most brain aneurysms are found in people between 35 and 60 years of age. Women are more often affected than men. Smoking and high blood pressure are two of the biggest risk factors for aneurysm.

*Vasospasm* is a condition when the blood vessels narrow and not enough blood flow gets to the brain. This is a serious event, which can lead to brain damage, stroke, or even death. It is caused by blood around the base of the brain after a SAH. The blood causes the arteries in the brain to "spasm", decreasing the amount of blood flow that can get through to feed the brain cells. Vasospasm usually occurs 4 to 14 days after a SAH. Symptoms include confusion, drowsiness, inability to speak, and pupil changes. Patients with SAH are watched closely for signs and symptoms of vasospasm. We do not know why some people are seriously affected by vasospasm and some are not.

### TESTS FOR VASOSPASM:

*CT scan/CAT scan* – Computer assisted X-ray of the brain tissue. Painless for the patient but they need to lie still during the scan.

*CTA* – CT scan which looks at blood vessels in the brain. Dye is injected through an IV during the test.

*Angiogram/A-gram* – Looks at blood vessels in the brain. A catheter is placed through a blood vessel in the groin into the neck and head. Dye is injected so that the blood vessels can be seen as X-rays are taken. After the procedure, the patient's groin and vital signs are checked frequently. The patient needs to stay flat and with the leg straight for 2-6 hours after the test.

### TREATMENTS:

When someone goes into vasospasm, it is important to maintain circulation to all areas of the brain. To do this, medications and intravenous (IV) fluids are often used to increase the blood pressure and get blood to the brain. A special IV may be inserted to monitor fluid status. The patient may need to have a procedure to open up the affected blood vessel/s in angiogram. In this procedure, a balloon may be used to open the blood vessel wider (angioplasty) or medication may be used to relax the blood vessel lining.

## SUGGESTIONS FOR FAMILY MEMBERS:

Above all, it is important that the patient's room stay calm and quiet. The healthcare team will examine the patient every one to two hours so that vasospasm can be identified and treated quickly. Between examinations, patients often sleep. Visitation is adjusted to meet the patient's needs and decrease stimulation. When visiting, talk to the patient about normal things, and avoid asking a lot of questions or quizzing them, because this can increase confusion and agitation. This is all done to protect the patient and help them get better. Please ask the nurse if you have any questions.

