

New device improves healing of some ruptured aneurysms

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A new device inserted into small ruptured brain aneurysms significantly improved healing of ruptured aneurysms compared to a standard device, according to research presented at the American Stroke Association's International Stroke Conference 2015.

Small aneurysms often cause no symptoms, but they can rupture and bleed into the area surrounding the brain or into the brain.

When bleeding occurs, immediate treatment is critical. One treatment for medium-sized ruptured aneurysms (5-10 millimeters) involves inserting a tiny platinum coil into the affected area to block blood flow and prevent the [aneurysm](#) from enlarging and rupturing.

In the study, researchers compared the effectiveness of the coils to HydroCoil, a new device that combines a gel-like substance with the standard platinum coil. When the substance comes into contact with blood, the gel expands to block [blood flow](#) to the aneurysm.

Researchers analyzed data from 288 patients with medium-sized, ruptured aneurysms who were enrolled in a previous clinical study examining the effectiveness of HydroCoil compared to standard coils. Seventy percent of patients were female and most were 55 years or younger.

Half the patients were randomly assigned to receive one of the two treatments, then researchers performed brain imaging studies 15-18

months later to determine whether the aneurysms had ruptured again or remained intact.

Among patients with ruptured, medium-sized aneurysms, the major recurrence rate was significantly lower - less than 20 percent - for those treated with HydroCoil compared to the rates of those treated with bare platinum coils - more than 30 percent. An aneurysm rupture recurrence occurs when the aneurysm is not completely healed after treatment.

"We think that one of the reasons that the HydroCoil had better outcomes than the bare platinum coil in the ruptured aneurysms is that a [ruptured aneurysm](#) can have a little bit more of a complex or irregular shape, the expansion of the hydrogel likely allows for filling of some of these irregular outpouchings and rupture sites," said Waleed Brinjikji, M.D., the study's lead author and a radiologist at the Mayo Clinic in Rochester, Minn. "The advantage of the HydroCoil is that it will expand to fill in that irregular shape."

Because the study included only a subgroup of patients, the results could be due to chance, researchers said. So further research is critical before changing the recommended treatment for aneurysms.

"We hope that these results help inform the development of future clinical trials," Brinjikji said. "Since small aneurysms generally respond well to the bare platinum coils, and large aneurysms are difficult to treat with coils alone, clinicians should try to focus on enrolling [patients](#) with medium-sized, ruptured aneurysms in future trials. Only if these results can be replicated should they be used to change clinical management."

In the United States, about 3-5 million people have an aneurysm each year.

Provided by American Heart Association

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