OHSU News & Information
Oregon Health & Science University
News and Publications
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April 19, 2005
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GEL-COATED COIL SPRINGS TO LIFE AS NEW ANEURYSM TREATMENT

Central Point, Ore., man receives new device at OHSU as part of comparison study

PORTLAND, Ore. – It isn't every day a car accident can be considered a good thing, but for Alfred Lloyd of Central Point, Ore., it was a blessing in disguise.

If it weren't for the July 2004 collision, the 60-year-old grandfather might not have undergone the magnetic resonance imaging (MRI) examination that revealed he had not one, but two pre-existing cerebral aneurysms. These fluid-filled bulges or sacs that form on the weakened walls of arteries can lead to stroke or death when they burst.

But that won't happen to Lloyd anytime soon. Last week, while undergoing treatment for one of his aneurysms at Oregon Health & Science University, Lloyd became a participant in an international study comparing the effectiveness of a new, gel-coated coil, which expands when inserted into the aneurysm to block the sac's continued growth, with a standard, bare platinum coil. It is nicknamed HELPS, or HydroCoil®: Endovascular Aneurysm Occlusion and Packing Study.

Like the bare platinum coil, the new HydroCoil is inserted into the aneurysm by a catheter fed from the groin area to the affected artery in the brain. But when the HydroCoil comes in contact with blood or fluid, its outer layer of "hydrogel" polymer absorbs blood components that are designed to promote healing, causing it to swell and fill the interior of the sac. Blood is then diverted away from the entrance to the aneurysm, allowing the body to heal the lesion.

Lloyd was the first person in North America to receive the device, which was approved by the U.S. Food and Drug Administration in August 2002, under the current comparison study. He received a standard coil for the first aneurysm last month.

Stanley Barnwell, M.D., Ph.D., associate professor of neurological surgery in the OHSU School of Medicine and the Dotter Interventional Institute, was among the team that installed the HydroCoil in Lloyd's aneurysm. He said the device "performed very nicely."

"It provided a very nice packing of the aneurysm. In fact, it provided better packing than any other coils used in the past, so we're very excited about it," he said.

Bare platinum coils are common treatments for an aneurysm. However, due to their relatively low packing density, they can be compressed together and compacted, allowing a treated aneurysm to regrow.

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But because the HydroCoil expands so quickly – in about 20 minutes – and can swell to fill three times more space in an aneurysm than that of comparable bare platinum coils, it "may help reduce the (aneurysm) regrowth rates," Barnwell added. "This may be a tremendous advantage" over standard coils.

Another member of the surgical team, Gary Nesbit, M.D., associate professor of diagnostic radiology and neurological surgery, School of Medicine, and the Dotter Interventional Institute, said many standard coils only fill about 30 percent of the volume of aneurysms, and surgeons often must fill them with many coils. But the HydroCoil can fill at least two-thirds the volume of an aneurysm.

"So far, we've been impressed," he said. "By using this HydroCoil, the aneurysm is filled in more significantly. The chance of it coming back is much, much lower."

And that couldn't make Lloyd happier.

"Everything worked just wonderfully," the construction estimator said from his bed at OHSU Hospital as he prepared to head home the day after his surgery. "I hope to resume my life, my normal life. I'm looking forward to just getting back to work and seeing my kids and my grandkids."

Lloyd is scheduled for a follow-up visit in six months, when he'll undergo an angiogram so doctors can check on the status of his aneurysms. "I really should have no problems whatsoever," he predicted.

The HydroCoil is manufactured by MicroVention® Inc. of Aliso Viejo, Calif., which also makes standard platinum coils.

Barnwell and Nesbit are both members of the Oregon Stroke Center at OHSU.

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