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Drug-eluting stents yield better outcomes than bare-metal ones

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Drug-eluting stents are just as safe and effective as traditional bare-metal stents when used in routine clinical practice, according to a new study by researchers at Rhode Island Hospital. Their findings are published in the November 20th issue of the *Journal of the American College of Cardiology*.

Sometimes known as medication-coated stents, drug-eluting stents are tiny tubes used to open narrowed arteries and slowly release a drug to prevent scar tissue growth. Although they have been universally accepted as more superior than more traditional, bare-metal stents, there is limited data comparing the generalized use of both stents, said lead researcher J. Dawn Abbott, M.D., a cardiologist at Rhode Island Hospital.

“Considering that drug-eluting stents are being used in the vast majority of stent procedures, its reassuring to find that they yield better outcomes than bare-metal stents when used in routine clinical practice,” said Abbott, who’s also an assistant professor of medicine at The Warren Alpert Medical School of Brown University.

Using broad geographic data from the National Heart, Lung and Blood Institute (NHLBI) Dynamic Registry, Abbott and her team compared outcomes for patients who underwent percutaneous coronary intervention – or angioplasty – and were treated with stents. One group received drug-eluting stents while a similar group received bare-metal stents when they were used more broadly before the commercialization of drug-eluting stents. Although separated in time by a few years, no

other technologic advances other than drug-eluting stents occurred between recruitment of both groups of patients.

The researchers found that for at least up to one year, the use of drug-eluting stents in standard clinical practice was not associated with any excess risk of death or heart attack compared with bare-metal stents, even in patients with complex heart lesions. The cumulative death and heart attack rate in patients receiving drug-eluting stents was 7.6 percent compared to 8.7 percent in those treated with bare-metal stents.

Patients treated with drug-eluting stents also had a substantial reduction in clinically-driven target vessel revascularization (repeat angioplasty or bypass surgery of the target vessel) compared with patients who received bare-metal stents (5 percent vs. 8.7 percent). Furthermore, the durability of the initial angioplasty was found to be enhanced with drug-eluting stents.

“These findings confirm the safety and effectiveness of drug-eluting stents out to one year, but we are continuing to follow these patients to assess for possible late complications related to the stent implantation,” said senior author David O. Williams, M.D., a cardiologist at Rhode Island Hospital and a professor of medicine at Alpert Medical School.

This analysis compared 1,460 patients enrolled in the NHLBI Dynamic Registry in 2004 who received at least one drug-eluting stent and 1,760 patients who enrolled just before the approval of drug-eluting stents (2001 to 2002) and received at least one bare-metal stent. Researchers looked at lesion characteristics and procedural outcomes and both in-hospital and clinical outcomes after one year. All patients had also undergone angioplasty at selected clinical centers in North America. The study included drug-eluting stents that released either sirolimus or paclitaxel.

Source: Lifespan.org