

PCI preference -- will that be an arm or a leg?

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When it comes to stenting – using metal tubes to prop open blocked arteries – physicians are continuing to choose to gain entry to the circulatory system through an opening in the leg instead of the arm, even though the latter option appears to be safer, with fewer side effects, say researchers at Duke Clinical Research Institute.

"Bleeding complications are reduced by 70 percent when interventional cardiologists go in through a radial artery in the wrist," says Dr. Sunil Rao, a cardiologist at Duke and the lead author of the study. "But our research shows that only a tiny fraction of stenting procedures are done this way. The study suggests that maybe it's time to change the way we practice."

Researchers reviewed data from 593,094 cases of percutaneous coronary intervention (PCI) in 606 hospitals across the U.S. included in the National Cardiovascular Data Registry from 2004 to 2007. They tracked the incidence of radial PCI (r-PCI) versus leg or femoral PCI (f-PCI) during that period and calculated which patients were more likely to get which option.

They found that the arm approach had gained favor over the four-year period, but still comprised only 1.3 percent of the total number of procedures. They also found that 40 percent of radial PCI was performed in only seven centers. Academic medical centers were more likely to be sites of higher r-PCI use than centers not affiliated with a college or university.

The data further revealed that r-PCI was more likely to be chosen as an approach for younger patients, those with significantly higher body mass index and patients with a higher prevalence of peripheral vascular disease

The study appears in the August issue of *Journal of the American College of Cardiology: Cardiovascular Intervention*. The study was funded by the National Cardiovascular Data Registry and the American College of Cardiology.

"The findings are somewhat surprising, given that numerous studies have shown that

r-PCI is similarly successful to f-PCI, and that r-PCI can significantly lower risk of bleeding, especially among women, patients younger than 75 and people undergoing PCI for acute coronary syndrome," says Rao. He says previous studies have also shown that r-PCI may cost less because it can mean shorter time in the hospital for some patients.

A decade's worth of skilled training and technical advances in stent design has contributed to an increased safety profile for most stenting procedures. But Rao says bleeding can be a complication in about 10 percent of some procedures. While most bleeding is minor, such bleeding can be life-threatening in a small number of cases. PCI also carries a slight risk of death from blood clots or ruptured arterial walls.

Rao uses r-PCI himself almost exclusively, reserving f-PCI for three types of cases: where the catheter is too big to fit inside the radial artery; in cases where the patient has had coronary bypass surgery, which can complicate access from the left wrist; or in cases where there is no alternate blood flow to the hand.

Rao notes that r-PCI is the preferred option in Europe. He says slower acceptance of the technique in the United States may be due to normal

resistance to change, resistance to having to master a new learning curve and a lack of industry effort to market new devices specially designed for r-PCI.

Source: Duke University Medical Center

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