Saving ruptured AAA patients percutaneously not inferior to femoral cutdown


CHICAGO, Illinois, November, 2017 – Around 20 years ago, a ruptured abdominal aortic aneurysm (rAAA) was often an instant death sentence. More than half of patients never made it to the hospital alive and even if they did, the overall mortality rate was higher than 80 percent.

Not only have newer therapies saved many lives, but a trend towards using an entirely percutaneous approach has been found as safe as incision-based approaches, according to a review of a large national data base of rAAA patients reported in the November Journal of Vascular Surgery.

Over the past two decades, treatment for abdominal aortic aneurysms has changed dramatically. The introduction of endovascular therapy for non-ruptured AAA has vastly reduced peri-operative morbidity and allowed patients too ill for open repair to be treated.

The delivery of the devices has also evolved, with more of these procedures being performed safely and effectively without any incisions at all. In the elective setting, this advance has led to shorter operative time, hospital length of stay and reduction in wound complications.

These positive trends are now being seen in the care of patients presenting with ruptured abdominal aortic aneurysm. Not only is rAAA being treated endovascularly, with significantly reduced morbidity over open repair, vascular surgeons have now adopted a totally percutaneous approach to this devastating problem.

The question is whether this technique offers any benefit over open femoral cutdown in the emergency setting.

As reported in JVS, researchers from the University of California, Irvine Medical Center led by vascular surgeon Dr. Roy Fujitani, compared percutaneous access versus femoral cutdown during endovascular repair of rAAA.

They retrospectively studied 502 patients entered into the American College of Surgeons National Surgical Quality Improvement Programs for the years 2011-2014.

The percentage of different endovascular repair access rates were:

- Bilateral percutaneous 24%
• Bilateral femoral cutdown 64%
• Unilateral femoral cutdown 10%
• Percutaneous converted to cutdown 2%

No significant differences were observed in patient demographics or presentation in terms of hemodynamic instability.

Outcomes for the procedures, percutaneous v. cutdown:

Perc (n=129) Cutdown (n=373)
• Operation time for percutaneous was 6 minutes more
• Conversion to open AAA  6.2% v 2.1%
• Wound complications 4.8% v 5.4%
• Length of stay 1.3 days less
• 30-day mortality 28.7% v 20.1%

Trends in percutaneous repair, 2011-12 versus 2013-14:
• Percent percutaneous 14% v 32%
• Operation time 188 minutes v 163 minutes
• 30-day mortality 38.2% v 25.3%

“On initial comparison, the worse mortality in the percutaneous group was surprising,” said first author Dr. Samuel Chen. “However, after adjustment for various risk factors, we did not find statistically significant differences in mortality, operative time, rate of wound complications, or hospital length of stay between the two groups.”

He further notes that, “the primary outcomes of operative time and mortality significantly improved for the percutaneous group over the four-year study period.”

These results reveal increased use of percutaneous access to treat rAAA endovascularly with non-inferiority to the traditional femoral cutdown approach. It also suggests improvement in outcomes over time, particularly among those undergoing a percutaneous approach.

This study sets an important baseline to which future comparisons can be made regarding progress towards even less invasive therapies for a lethal disease.

To download the complete article (available 10/20/17 through 12/31/2017), click: vsweb.org/JVS-rAAA

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