

Injection drug use limits benefits of surgery for treatment of heart lining infection

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Injection drug users who undergo surgery for infective endocarditis (IE) have a significantly higher risk of reoperation or death between 3 and 6 months after surgery compared to patients who develop endocarditis who are not IV drug abusers, according to an article in the September 2015 issue of *The Annals of Thoracic Surgery*.

Key points:

- Patients with active [injection drug](#) use who undergo surgery for [infective endocarditis](#) have a 10-fold increased risk of reoperation or death between 3 and 6 months after surgery compared to non-drug abusers.
- The researchers suggest that the increased risk is related to ongoing injection drug abuse, which probably resumes soon after patients are discharged from the hospital.
- Addiction therapy must be tied to related medical treatment in order to achieve optimal results.

IE is an infection caused by bacteria that enter the bloodstream and get into the heart lining, a heart valve, or a blood vessel. Previously, the main risk factor for IE was [rheumatic heart disease](#) but recent research has shown that other risk factors have gained prominence, including injection drug use (IDU), prosthetic valve infection, degenerative valvular disease, and hemodialysis.

"Injection drug use is a growing public health problem, especially among young adults between 20 and 35 years of age," said Nabin K. Shrestha, MD, MPH, from the Cleveland Clinic, who led the study. "Injecting drugs into the bloodstream carries with it the potential for inadvertently introducing microorganisms into the bloodstream, which can settle on heart valves and cause IE."

Dr. Shrestha and colleagues identified 536 patients who underwent surgery for IE at Cleveland Clinic between July 2007 and July 2012. Of those, 41 (8%) were active injection drug abusers.

They found that between 3 and 6 months after surgery, injection drug abusers had 10 times the risk of death or reoperation for IE than the patients who did not inject drugs. Before 3 months and after 6 months, however, all patients appeared to have similar risk for death or reoperation.

The researchers suggested that the timeframe for the increased risk was related to ongoing injection drug abuse that probably resumed soon after patients were discharged from the hospital; consequences started to become apparent at 3 months after surgery.

"A major limitation of current medical care for patients with IDU is that appropriate treatment for addiction is very difficult to come by due to a lack of providers or facilities or the lack of insurance or other means to pay for the scarce resources that may be available," explained Dr. Shrestha. "Our hope is that this study can help patients with IDU and their doctors understand the magnitude of risk for endocarditis relapse during this time period and convince policy makers that IE treatment without adequately addressing the underlying addiction in patients with IDU prevents achieving outcomes that should otherwise be attainable."

Relevancy of research as substance abuse increases

In an invited commentary in the same issue of *The Annals*, Gabriel Aldea, MD, from the University of Washington in Seattle, discussed the relevancy of the research by Dr. Shrestha and colleagues noting data from the National Institutes of Health that shows substance abuse and the use of intravenous drugs in the United States increased dramatically in the past decade.

"The researchers' last point is, in my opinion, the most relevant," added Dr. Aldea. "The current fractured structure and silos between acute and chronic health care and social services leads to an inability to bridge the 'treatment gap' between the urgent symptoms of a disease and its underlying cause. Until addiction therapy is recognized as a critical component of care for [patients](#) with IDU, these sobering and disappointing long-term results are unlikely to improve. "

More information: "Injection Drug Use and Outcomes after Surgery for Infective Endocarditis." *Ann Thorac Surg* 2015;100:875-83. [DOI: 10.1016/j.athoracsur.2015.03.019](#)

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