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Effect of Dental Treatment Before Cardiac Valve Surgery

Background

The purpose of this systematic review was to determine the potential effects of dental procedures performed as pre-surgical preparation, in any setting, in adults before cardiac valve surgery (CVS) or left ventricular assist device (LVAD) implantation compared with results with no dental pretreatment on morbidity and mortality outcomes (all-cause mortality, Infective endocarditis (IE) rates, other infections, and length of stay [LOS] in the hospital).

More than 5 million Americans receive a diagnosis of heart valve disease each year, and the number of CVS cases complicated by IE is increasing. People with valvular disease undergoing cardiac valve replacement are at increased risk of developing IE postop-

eratively, with infection most commonly involving the mitral and aortic valves. Community-associated IE is the most common form and often is linked to oral bacteria.

Investigators had used earlier evidence suggesting a dental origin for bacterial species responsible for IE in those with congenital heart disease as a rationale for recommending dental treatment before cardiac surgery.

However, results from a 2016 systematic review of causative microbes in IE indicated patient population variation in pathogen type, suggesting that a broad-based recommendation for dental treatment before cardiac surgery may not be justified. In addition, investigators have reported increases in major adverse outcomes, including death, for patients under-

going dental extractions before cardiac operations.

Types of Studies

This review was initiated in response to the American Dental Association (ADA) House of Delegates resolution 86H-2016, which directed the ADA to address optimizing dental health before specific surgical or medical procedures and treatment. The authors used a meta-analysis with a random-effects model to estimate dichotomous

and continuous outcomes, expressed as relative risk (RR) and weighted mean difference.

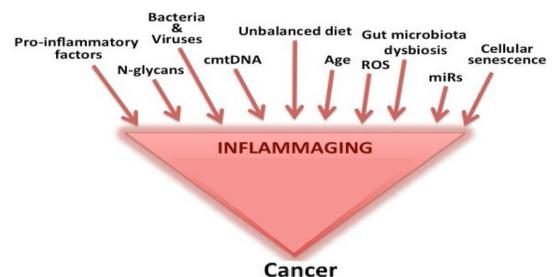
Results

Six studies met the inclusion criteria for CVS but none for LVAD implantation. Very low certainty in the evidence suggested uncertainty as to whether health outcomes for patients undergoing dental treatment before CVS differed from those who did not.

NEWS YOU CAN USE

Chronic inflammation (inflammaging) and its potential contribution to age-associated diseases.

Human aging is characterized by a chronic, low-grade inflammation, and this phenomenon has been termed as "inflammaging." Inflammaging is a highly significant risk factor for both morbidity and mortality in the elderly people, as most if not all age-related diseases share an inflammatory pathogenesis. Nevertheless, the precise etiology of inflammaging and its potential causal role in contributing to adverse health outcomes remain largely unknown. The identification of pathways that control age-related inflammation across multiple systems is therefore important in order to understand whether treatments that modulate inflammaging may be beneficial in old people.



<https://www.ncbi.nlm.nih.gov/pubmed/24833586>

DENTAL FUN FACT

Your mouth produces 25,000 quarts of saliva in a lifetime. That is enough to fill 2 swimming pools!

<https://www.healthplex.com/resources/dental-trivia>

Conclusions and Practical Implications

Investigators in previous broader systematic reviews focused on dental treatment before all cardiovascular surgeries for

both adult and pediatric patients. They found that the influence of dental treatment before cardiovascular surgery on morbidity and mortality outcomes was unclear, which is consistent these findings.

From the available evidence, it is unclear whether postoperative outcomes differ in patients receiving dental treatment before CVS compared with outcomes in those who do not. Dentists and medical care professionals should col-

laborate on an appropriate course of action for each patient, weighing any potentially relevant care consideration until more definitive studies are published. *JADA* The Journal of the American Dental Association: September 2019 (Volume 150, Issue 9)

Dr. Brian Simpson
announces the 40th meeting of the

NANUET IMPLANT STUDY GROUP

“Premalignant Lesions and Oral Cancer”

Speaker: Paul Freedman D.D.S.
Director of Oral Pathology Residency
at NY Presbyterian, Queens

Tuesday, November 12, 2019

Dinner: 6:30 Presentation: 7:00 – 9:00 pm

Hudson House • 134 Main Street, Nyack, NY

2 CE credits awarded by the Ninth District Dental Association
Cost: \$50.00

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email: office@drbriansimpson.com

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