Meta-Analysis of Survival Outcomes in People Who Inject Drugs after Cardiac Surgery for Infective Endocarditis

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BACKGROUND

• Infective endocarditis (IE) in people who inject drugs (PWID) has increased in the United States.
• Providers may have concerns for ongoing injection drug use and subsequent risk of reinfection in PWID that may limit provision of cardiac surgery in PWID with IE.
• We aimed to provide an estimate of the long-term survival in PWID post-cardiac surgery for IE and compare their survival with people who do not inject drugs (non-PWID).
• We performed a systematic review and meta-analysis of studies that reported survival after cardiac surgery for PWID with IE.

METHODS

Study design
Systematic review and meta-analysis

Search terms
PubMed, Embase, Scopus, and Google Scholar

Inclusion criteria
1) Retrospective or prospective design
2) Individuals with infective endocarditis
3) Underwent a surgical cardiac procedure (i.e., replaced or repaired a heart valve)
4) Reported outcomes in separate for PWID

Exclusion criteria
1) Studies without a control group
2) Studies without a follow-up survival data

Statistical analysis

RESULTS

<table>
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<tr>
<th>Included Studies</th>
<th>Isolated Organisms by PWID-status</th>
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<tbody>
<tr>
<td>Study</td>
<td>Non-PWID &amp; non-IE (95% CI)</td>
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Conclusions

• PWID undergoing valve surgery for IE were more likely to have infections with Staphylococcus aureus and Candida spp, than non-PWID, but less likely to have infections with Streptococcus spp and coagulase-negative staphylococci (CONS).
• PWID were more likely to have tricuspid valve disease and embolic events than non-PWID, but less likely to have mitral valve disease or prosthetic valve IE.
• PWID trended towards worse outcomes than non-PWID after cardiac surgery for IE.
• Due to high heterogeneity caution is required in interpreting results.
• Future studies should evaluate interventions to improve outcomes in PWID after cardiac surgery for IE that may include: Medication assisted therapy during and after hospitalization, naloxone at the time of discharge, behavioral interventions, and referral to harm-reduction services.

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