Clinical outcomes of early infective endocarditis vegetation extraction with AngioVac system

Authors:
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Topic(s):
Clinical

Purpose
To describe our institutional experience in right-sided vegetation extraction using a percutaneous system and report our outcomes including mortality, ICU length of stay (LOS), hospital length of stay, decline in inflammatory markers, leukocytosis and bacteremia.

Background
Right-sided infective endocarditis (IE) has become increasingly common due to the growing incidence of intravenous drugs use (IVDU). Patients with large vegetations are often considered candidates for surgical extraction. However, high rates of recurrence in IVDU population and high surgical mortality are prohibitive of surgeries. Percutaneous extraction of right-sided masses has become an alternative to open heart surgery and can be performed with lower morbidity and mortality in patients with right sided IE. Percutaneous vegetation extraction facilitates functional recovery in critical care setting and influence outcomes in patients with elevated perioperative risk or concerns for recurrent IE.

Methods
A total of 3 patients with right sided IE underwent percutaneous vegetation extraction with AngioVac® system (AngioDynamics Inc., Latham, NY) under combined fluoroscopy and transesophageal echocardiography (TEE) guidance.

Results
In hospital mortality was 0%, average ICU LOS was 8 days and average hospital LOS was 4 weeks. There was a decrease in inflammatory marker and white blood cell (WBC) count after AngioVac procedure.

Conclusion
We report our experience with high risk IE patients. These patients had large vegetations, persistent bacteremia, right heart failure with prohibitive risk profiles during the perioperative period. AngioVac was effective in reducing bacteremia burden and reducing ICU stay. There were no procedure related complications. Overall percutaneous extraction of right-sided masses and vegetations have the potential of improving outcomes, reducing complications and healthcare costs in patients with right-sided IE.

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Vegetation Location</th>
<th>Device used</th>
<th>Microorganism</th>
<th>Patient intubated for the procedure (y/n)</th>
<th>ICU LOS (days)</th>
<th>Hospital LOS (weeks)</th>
<th>Discharge death or alive</th>
<th>Decrease in WBC</th>
<th>Decrease in ESR</th>
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<tr>
<td>22</td>
<td>M</td>
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<td>MSSA</td>
<td>Y</td>
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<td>3</td>
<td>Alive</td>
<td>7</td>
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<tr>
<td>34</td>
<td>F</td>
<td>TV, RVOT</td>
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<td>MRSA</td>
<td>Y</td>
<td>20</td>
<td>8</td>
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Clinical characteristics and outcomes of patients with IE undergoing percutaneous extractions of right-sided vegetations
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