Infective Endocarditis due to Nutritionally Variant Streptococci (Granulicatella and Abiotrophia): The Cleveland Clinic Experience

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Background

- Infective endocarditis (IE) due to nutritionally variant streptococci (NVS) is uncommon but frequently causes morbidity and mortality
- There are relatively few published descriptions of IE due to NVS and the last case series was published a decade ago
- We present a descriptive study of patients with IE due to NVS in our institution and describe predisposing factors, treatment and outcomes

Methods

- We retrospectively reviewed patients with NVS IE from 2007-16 using the Endocarditis Registry at the Cleveland Clinic
- The clinical diagnosis of IE was determined by modified Duke Criteria; etiology was established by microbiologic studies including 16S RNA bacterial sequencing of valve tissue
- Demographic information, predisposing factors, echocardiographic findings, complications, antimicrobial and surgical treatment, duration of follow up and outcomes were evaluated

Results

- A total of 19 cases of IE due to NVS (1.4% of all cases of IE) were identified (average age 58 years, 84% male)
- Seven pts (37%) had an infected prosthetic valve
- The most common indication for surgery was valvular dysfunction (16 pts, 84%), followed by peri-valvular abscesses (21%) and cardiogenic shock (16%)
- Eighteen patients underwent valve replacement; one patient declined surgery
- The mean interval between admission and valve surgery was 8 days
- Histopathologic examination of explanted valves demonstrated organisms in 18 (100%), acute and chronic inflammation in 10 (56%) and 4 (22%) cases, respectively
- Among 11 patients who had at least 6 months of follow up (median 29 months), no relapses were observed

Conclusions

- IE due to NVS accounts for less than 2% of cases of IE at the Cleveland Clinic
- All patients had indications for valve replacement surgery
- Those who underwent surgery had excellent long term survival with no documented relapse
- Blood culture, valve PCR and expanded valve histopathologic examination are very helpful for diagnosis of NVS IE

Microbiologic Findings

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<th>+ NVS</th>
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<tbody>
<tr>
<td>Blood culture</td>
<td>19</td>
<td>10</td>
<td>95%</td>
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<tr>
<td>Valve culture</td>
<td>17</td>
<td>2</td>
<td>12%</td>
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<tr>
<td>Valve PCR</td>
<td>12</td>
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Complications

- Hemorrhagic Stroke: 3
- Embolization: 10.5
- Ischemic Stroke: 5.3
- Cardiogenic Shock: 19.8
- AKI: 34.8
- Percentage of cases: 2 Spine, 1 EYE, 4 Spine+Spleen, 3 Spine+Lung+Face

Antimicrobial Treatment

- Number of Cases

- Predisposing Factors

- Valve Involvement

- Percentage of Cases

- Valve Involvement

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