

**2403. Outcomes in Infective Endocarditis due to *Granulicatella* species and *Abiotrophia defectiva***Cindy McCartney, MD<sup>1</sup>; Patricia Bartley, MD<sup>2</sup>; Nabin K. Shrestha, MD, MPH<sup>1</sup>; <sup>1</sup>Cleveland Clinic Foundation, Cleveland, Ohio; <sup>2</sup>Cleveland Clinic, Cleveland, OH**Session:** 235. Endocarditis

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**Background.** Infective Endocarditis (IE) due to *Granulicatella* sp. and *Abiotrophia defectiva* (formerly known as nutritionally variant streptococci - NVS) remains a clinically important entity given difficulty in diagnosis, optimal management, and possible treatment failure outcomes. These microorganisms account for roughly 4-8% of all IE cases. To the best of our knowledge this study entails the largest single center registry in the US of *Granulicatella* sp. and *A. defectiva* IE looking at patient characteristics, survival and relapse outcomes and susceptibility data.

**Methods.** Retrospective chart review of 35 patients (13 *A. defectiva*, 20 *Granulicatella* sp. and 2 labelled as NVS) with IE admitted to our facility from January 1<sup>st</sup>, 2008, to January 1<sup>st</sup>, 2023.

**Results.** Patient characteristics including valves affected, presenting symptoms and complications can be seen in Table 1. Seven patients (20% - 5 for *A. defectiva* and 2 for *Granulicatella* sp.) had failed medical management at outside facilities prior to admission at our center. Valve replacement or repair was performed on 31 (88.6%) patients. Molecular testing was performed on 28 (80%) isolates of which all had positive identification. Susceptibilities were obtained in 22 (63%) isolates as summarized in Table 2 below. All isolates were found to be vancomycin-susceptible, and varying degrees of susceptibilities to ceftriaxone and penicillin depending on the species. Vancomycin therapy was used in 11 (31.4%) patients, ceftriaxone in 19 (54.3%) patients (combination of vancomycin and ceftriaxone in 3 patients), and penicillin in 8 (22.9%) patients. Adjuvant aminoglycoside therapy was used in only 2 (5.7%) patients (one combination with ampicillin and one with vancomycin). Average length of IV antibiotic therapy was 6 weeks post-surgery, and 5 patients were treated with an oral tail after IV antibiotics. Survival curves since hospitalization are demonstrated in Figure 1. There were no treatment failures or relapses of IE due to these organisms.

Table 1  
Clinical characteristics of patients with IE due to *Abiotrophia defectiva*, *Granulicatella* sp. and NVS

Patient Characteristics	<i>A. defectiva</i> Total n = 13	<i>Granulicatella</i> sp.* Total n = 20	NVS Total n = 2
Age, mean (SD)	58 (13)	58 (18)	
Male gender	11	15	2
<b>Valves affected:</b>			
Native valve	8	12	1
Prosthetic valve	5	8	1
> 1 Valve	6	10	1
Aortic valve	8	15	2
Bicuspid aortic valve	3	6	0
Mitral valve	9	10	1
Tricuspid valve	1	0	0
<b>Potential Source:</b>			
Unknown	10	12	0
Dental	2	8	1
IV drug use	1	2	1
Positive blood cultures	12	18	2
Positive valve cultures	2	2	0
Histopathological evidence of IE	12	18	1
Valve PCR positive	12	16	0
<b>Presenting symptoms:</b>			
Constitutional symptoms <sup>a</sup>	12	20	2
Heart failure	4	10	0
Embolic events <sup>b</sup>	2	9	1
Discitis/osteomyelitis	1	5	0
Shock	2	1	0
<b>Imaging findings:</b>			
Root/paravalvular abscess	2	6	1
Severe valvular insufficiency	11	17	2
Large vegetation <sup>c</sup>	5	9	1
<b>Complications:</b>			
Heart failure	6	10	0
Post infectious glomerulonephritis	1	0	0
Aneurysm	0	1	1
In-hospital mortality <sup>d</sup>	0	1	1

\**Granulicatella* sp. included *G. elegans* (2 patients) and *G. adiacens* (17 patients) and 1 patient not further speciated.

<sup>a</sup>Constitutional symptoms include fevers, chills, night sweats, weight loss and/or fatigue listed in the past 3 months.

<sup>b</sup>Embolic events include stroke, splenic infarcts, systemic embolism.

<sup>c</sup>Large vegetation > 1cm measured on echocardiography (vegetation dimensions not specified on all reports).

<sup>d</sup>Mortality during hospitalization or within 30 days post admission.

Table 2  
Susceptibility data for ceftriaxone, vancomycin, and penicillin of collected isolates

Organism	Ceftriaxone susceptibility, n (%)	Vancomycin Susceptibility, n (%)	Penicillin Susceptibility, n (%)
<i>A. defectiva</i>	8 (100)	8 (100)	3 (37.5)
<i>Granulicatella</i> sp.	5 (38.4)	13 (100)	11 (78.6)
NVS	0 (0)	1 (100)	0 (0)

Susceptibilities obtained in 22 (63%) isolates, not all isolates had results for all 3 antibiotics to explain the discrepancy in the total counts. The % susceptibility was calculated from if susceptibility for that antibiotic was performed.

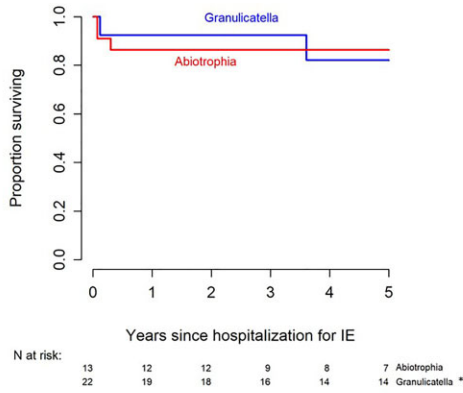


Fig. 1. Survival curves for *Granulicatella sp.* and *Abiotrophia defectiva* IE post hospitalization.

\* The 2 patient isolates labelled with NVS were included in the *Granulicatella sp.* group for simplification of the survival curve.

**Conclusion.** The majority of patients presented with constitutional symptoms, heart failure and embolic events. Five-year survival exceeded 80% and there were no relapses in this series. Most importantly, outcomes were excellent without the use of aminoglycosides contrary to guideline recommendations.

**Disclosures.** All Authors: No reported disclosures