and readmission rates. Analyses suggest a potential difference in the pursuit of source control and combination therapy among PWID, however more studies may be needed to achieve significance.

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687. Use of Dalbavancin in Gram-positive Infective Endocarditis: Review of Current Literature

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Session: P-32. Endocarditis

Background. Dalbavancin is a long acting, semisynthetic derivative of teicoplanin that is currently approved for treatment of acute bacterial skin and skin structure infections. Its efficacy and role in the treatment of invasive infections, in particular infective endocarditis, is not well known.

Methods. We reviewed the English-language literature for the use of Dalbavancin in the treatment of endocarditis due to Gram-positive organisms, using Pubmed.

Results. 15 publications were reviewed. All the publications were retrospective in nature, with relatively small numbers of patients, including a few case reports.

A total of 159 patients received Dalbavancin for endocarditis. The mean age was 47 years. The main reasons for using Dalbavancin were non-feasibility of a standard outpatient regimen (mainly due to drug use) or the need for a simpler regimen. 75 patients had infection of a native valve, 44 of a prosthetic valve and 19 of a cardiac de.

The dosage regimens varied, with the more common ones using a loading dose of 1,000 mg or 1,500 mg, followed by 750 mg every 2 weeks. The median duration of Dalbavancin use was 2.7 weeks. The dosage regimens varied, with the more common ones using a loading dose of either 1,500 mg or 1,000 mg, followed by one or more weekly doses of 500 mg. The overall clinical efficacy was around 89%. Adverse events were mild, including nausea, vomiting, rash, headache and reversible acute kidney injury. None of the patients had to discontinue the drug because of adverse events. Two publications evaluated the cost-effectiveness of Dalbavancin and found it to save about $9000 per patient, the saving being mainly due to reduced length of hospital stay.

Conclusion. Dalbavancin appears to be an efficacious, safe and cost-effective option for sequential treatment of endocarditis caused by Staph aureus and other Gram-positive organisms.

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688. Incidence and Risk Factors for Prosthetic Valve Endocarditis Following TAVR: 2015-2019

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Session: P-32. Endocarditis

Background. Transcatheter aortic valve replacement (TAVR) is increasingly used for lower risk patients. Incidence of TAVR endocarditis ranges from 0.2% to 3.3%. The purpose of this study was to determine local incidence and risk factors of prosthetic valve infective endocarditis (PVIE) in a contemporary cohort.

Methods. IRB approved retrospective, nested case-control study evaluated the 1-year incidence and risk factors for PVIE among TAVR recipients from 2015 to 2019. Inclusion: ≥ 18 years. TAVR procedure at Henry Ford Health System. Exclusion: repeat TAVR. PVIE cases were matched with controls who did not experience PVIE. PVIE defined as diagnosis documentation in the electronic medical record.

Figure 1. Study Design

Table 1. Patient Characteristics and Risk Factor Analysis

Table 2. Additional Outcomes

Conclusion. The results from this study give insight to the local incidence, microbiology, and risk of PVIE following TAVR. Future directions include a larger evaluation of modifiable risks such as diabetes management and examining the heart block patients who received permanent pacemaker implants.

Disclosures. Rachel Kenney, PharmD, Medtronic, Inc. (Other Financial or Material Support, spouse is an employee and shareholder) Janet F. Wyman, DNP, CNS-BC, FACC, Edwards Lifesciences (Consultant) Dee Dee Wang, MD, Edwards Lifesciences (Consultant) Brian O’Neill, MD, Edwards Lifesciences (Consultant)

689. Streptococcus suis Endocarditis: Echocardiographic Features and Clinical Outcomes

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Session: P-32. Endocarditis

Background. Streptococcus suis (S. suis) is a zoonotic pathogen that transmits to the human with direct contact of pig or raw pork ingestion. This infection has been described in Asia, especially Thailand, Vietnam, and China. S. suis could cause wide range of infection, including endocarditis. This study aimed to describe the clinical features, echocardiogram findings, and outcomes of S. suis endocarditis.

Methods. A single center, ten-year (January 2009 to December 2018), retrospective cohort study was conducted among patients who were diagnosed with S.suis endocarditis in 1,200-bed hospital in Northern, Thailand.

Results. Forty-three patients of S.suis endocarditis were identified during the study period. Of those, 28 (65%) patients had positive blood culture and 15 (35%) was diagnosed by 16SRNA bacterial identification from heart valve tissue. Majority (81%) were male with median age of 35. There were 62 affected valves in 43 patients. Twenty patients (48%) had vegetation larger than 10 mm in diameter and 35 (81.4%) patients had moderately severe or severe valvular regurgitation. Valvular perforation was described in 23 patients (53%). Perivalvular complications were found in 15 patients (35%). Systemic embolism occurred in 17 (40%) patients. Cardiac operation was undertaken in 35 (81%) patients. There were 2 in hospital deaths (5%) and 6 patients (14%) had disabilities. Moderately severe/severe regurgitation, systemic embolism, and no cardiac operation were significantly associated with disability or death from univariate analysis. By logistic regression analysis, systemic embolism was the only risk factor for disability or death (OR = 12.6, 95% CI 1.3-123.5; p = 0.029).

Table 1. Patient Characteristics and Risk Factor Analysis

Table 2. Additional Outcomes

Conclusion. The results from this study give insight to the local incidence, microbiology, and risk of PVIE following TAVR. Future directions include a larger evaluation of modifiable risks such as diabetes management and examining the heart block patients who received permanent pacemaker implants.

Disclosures. Rachel Kenney, PharmD, Medtronic, Inc. (Other Financial or Material Support, spouse is an employee and shareholder) Janet F. Wyman, DNP, CNS-BC, FACC, Edwards Lifesciences (Consultant) Dee Dee Wang, MD, Edwards Lifesciences (Consultant) Brian O’Neill, MD, Edwards Lifesciences (Consultant)
Table 1. Baseline demographic data of all 43 patients with S. suis endocarditis

| Characters | N=43 | n (%) |
|------------|------|-------|
| Male gender | 35 (81%) |
| Age (years), median (min, max) | 52 (20, 85) |
| Underlying conditions | None |
| Pre-existing structural heart diseases | 34 (79%) |
| Cardiovascular diseases | 20 (47%) |
| Neuro (CVA/TIA/Dementia) | 2 (5%) |
| Liver diseases | 2 (5%) |
| Diabetes mellitus | 3 (7%) |

Occupation
- Rice or vegetable farmers: 14 (32%)
- Livestock owners/butcher/chef: 5 (12%)
- Unemployed: 3 (7%)
- Others or missing: 26 (61%)

History of exposure
- Consumption of raw pork: 15 (35%)
- Contact with pig: 2 (5%)
- Unknown history of exposure: 26 (60%)

Living area
- Urban: 20 (46%)
- Sub-urban: 23 (53%)

Table 2. Presenting signs/symptoms, prediction score and laboratory data on admission

| Characters | N=43 |
|------------|------|
| Presenting signs/symptoms | Fever (symptoms), n (%) |
| Fever (>37.5°C) on admission, n (%) | 34 (79%) |
| Temperature on admission (°C), median (min, max) | 38.4 (37.5, 39.2) |
| Dyspnea, n (%) | 30 (70%) |
| Clinical heart failure, n (%) | 31 (72%) |
| Clinical meningitis, n (%) | 2 (5%) |
| Septic joints, n (%) | 8 (19%) |
| Prediction scores on admission | qSOFA score, median (min, max) |
| NEWS score, median (min, max) |
| Pitt Bacteremia Scores* (min, max) |
| Laboratory data | White blood cell count, median (min, max) |
| Serum creatinine, median (min, max) | 1.05 (0.6, 6.6) |

*only applicable to 28 patients with bacteria

Table 3. Univariate and multivariate analysis of factors associated with morbidity and mortality

| Factors | Univariate | Odds Ratio | p-value | Multivariate | Odds Ratio | p-value |
|---------|------------|------------|---------|--------------|------------|---------|
| Age >60 years | 1.00 (0.16, 7.80) | 0.621 |
| Male | 1.75 (0.18, 16.65) | 0.628 |
| qSOFA (>2) at admission | 0.00 (0.16, 3.80) | 0.792 |
| Clinical findings | Systemic embolisms | 17.50 (0.19, 161.11) | 0.007 |
| Left ventricular failure | 1.31 (0.26, 6.48) | 0.792 |
| ECHO findings | Moderate/severe/severe regurgitation | 0.13 (0.02, 0.73) | 0.022 |
| Perforating abscess | 0.60 (0.12, 2.92) | 0.537 |
| Vascular complication | 1.15 (0.23, 5.65) | 0.863 |
| Surgical intervention | No cardiac operation | 0.31 (0.06, 1.54) | 0.333 |

Conclusion. S. suis endocarditis had high rate of valvular damage with complications and resulting systemic embolism. Surgery is required in majority of the patients. Embolism was associated with disability or death.

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690. High Mortality and Over-representation of Young Women Amongst People Who Inject Drugs Admitted with Infective Endocarditis in Saskatchewan, Canada from 2013-2018

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Session: P-32. Endocarditis

Background. The province of Saskatchewan has had the highest rates of HIV and Hepatitis C in Canada for over 10 years, the majority of which is related to People who inject drugs (PWID) and with higher proportion of young women. However, the most severe complications of injection drug use (IDU) are infective endocarditis (IE) and its associated sequelae. While high rates of IE have been noted, no data exists to show the burden of infective endocarditis and its clinical outcomes. Thus, we looked to determine the mortality and impact of IE amongst PWID and also establish the epidemiology while comparing to non-PWID IE.

Methods. This is a retrospective chart review of consecutive adult patients (age > 18) admitted for IE, as defined by Duke’s IE Criteria, at tertiary care hospitals in Regina, the capital city of Saskatchewan, between January 1, 2013 and December 31, 2018. PWID were identified through chart documentation of self-reported IV drug use. Outcomes included 1-year mortality, surgical intervention and referral to addiction services.

Results. Of the total 227 patients in our cohort, 130 (57.3%) were female, and the 1-year mortality was 39.2%. PWID related IE comprised 132 (58.1%) of the cohort. In comparison to non-PWID related IE, PWID were younger (median age 38.0, compared to 68.0 for non-PWID), more likely to be female (RR 2.06; 95% CI [1.44-3.04]; p< 0.001), to suffer right-sided disease (RR 9.14; 95% CI [4.74-15.14]; p< 0.001) and less likely to receive surgical management (RR 0.36; 95% CI [0.27-0.77]; p=0.001). Surgical management was associated with lower mortality (RR 0.46; 95% CI [0.11-0.65]; p=0.001). Addiction support and treatment also was protective (RR 0.89; 95% CI [0.34-1.21]; p=0.051).

Conclusion. This cohort study of IE episodes shows for the first time the devastating impact of IDU in Saskatchewan and identifies PWID as having a 39% mortality at 1 year, which coupled with their younger age translates into an enormous years of life lost. Additionally, the over-representation of young women amongst PWID IE is consistent with the higher percentage of young women with HIV and HCV infections, and identifies them as a group that is particularly vulnerable to complications of IDU. Targeted programs for PWID, particularly towards young women at risk are urgently needed.

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691. Infective Endocarditis with an Indication for Cardiac Surgery in a Tertiary Care Educational Hospital: Does Cardiac Surgery Improve Outcomes?

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Session: P-32. Endocarditis

Background. In this retrospective cohort study, it was aimed to compare the clinical characteristics and outcomes of IE cases without and with an indication for cardiac surgery in terms of whether they have been operated or not, in a tertiary-care educational hospital.

Methods. This is a retrospective chart review of consecutive adult patients (age > 18) admitted for IE, as defined by Duke’s IE Criteria, at tertiary care hospitals in Regina, Saskatchewan, Canada for over 10 years, the majority of which is related to People who inject drugs (PWID) and with higher proportion of young women. However, the most severe complications of injection drug use (IDU) are infective endocarditis (IE) and its associated sequelae. While high rates of IE have been noted, no data exists to show the burden of infective endocarditis and its clinical outcomes. Thus, we looked to determine the mortality and impact of IE amongst PWID and also establish the epidemiology while comparing to non-PWID IE.

Methods. Patients who were followed up for definite IE (diagnosed according to modified Duke criteria between March 2007 and November 2020) with an indication for cardiac surgery according to European Society of Cardiology Guidelines, comprised the study group. Subjects were evaluated in terms of whether these cases have been operated or not, demographic features, underlying diseases, risk factors, clinical and laboratory findings, therapy responses, complications, and mortality. The timing of surgery is defined as emergency; surgery performed within 24 hours, urgent; within a few days, elective; after at least one-two weeks of antibiotic therapy. Statistical analysis was performed via Chi square and Student T tests and a p value < 0.05 was considered significant.

Results. A total of 90 patients with an indication for surgery, 33.3% patients in underwent surgery, 66.6% patients in not underwent surgery group fulfilled the study criteria. The most frequently seen complications in patients were fever (91.1%), cold-shiver (56.6%), weight-loss (27.7%), dyspnea (25.5%), and tachycardia (20%). Heart murmur was detected during cardiac auscultation of 44 patients. Mean blood leukocyte count, C-reactive protein and erythrocyte sedimentation rate were 12324 ± 6558/mm³ (1408-30330), 11.46 ± 8.38 mg/dl (0.18-34.6) and 61.43 ± 33.4 mm/h (2-130), respectively. There was no significant difference between two groups in terms of cardiac/non-cardiac risk factors, age, gender, etiologic agents, laboratory findings, septic embolisms and complications (Table 1). In total IE with an indication for surgery mortality was 27.7%. Mortality rate was significantly less and heart murmur was significantly higher in cases who underwent surgery than those did not undergo surgery (p=0.0447).

Disclosures. All Authors: No reported disclosures