Disclosures. All authors: No reported disclosures.

477. Comparison of Clinical Characteristics and Outcomes Between Community-Acquired and Healthcare-Associated Bacteremia Cases due to Bacteroides Species Naokatsu Ando, M.D.; Kayoko Hayakawa, M.D., Ph.D.; Yuiichi Katamani, M.D.; Kazumasa Meraki, M.T.; Saiko Takaya, M.D., M.Sc.; Kei Yamamoto, M.D.; Nuzomi Takehata, M.D., Ph.D.; Satoshi Kutsuna, M.D, Ph.D; and Norio Omahgari, M.D., M.S., Ph.D.; Disease Control and Medicine and Prevention Center, National Center for Global Health and Medicine, Tokyo, Japan; d, Detroit, Michigan, Disease Control and Prevention Center, National Center for Global Health and Medicine, Tokyo, Japan, Microbiology Laboratory, National Center for Global Health and Medicine (NCGM), Tokyo, Japan, Disease Control and Prevention Center, National Center for Global Health and Medicine (NCGM), Tokyo, Japan, National Center for Global Health and Medicine (NCGM), Tokyo, Japan

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Background. Differences in clinical characteristics and outcomes between community-acquired (CA) and healthcare-associated (HCA) Bacteroides bacteremia cases are not well known.

Methods. We evaluated all positive blood cultures between March 2012 and December 2016 in a Japanese 781-bed acute hospital. Identification and susceptibility was performed based on CLSI criteria, and MALDI-TOF has been used since January 2015 in addition to conventional methods.

Results. Of 3611 bacteremia cases, 266 (7.4%) were due to obligately anaerobic bacteria, such as Clostridium species (n = 97 [36.5%]), Fusobacterium species (15 [7.5%]), and Bacteroides species (65 [24.4%]), of which 31 (47.7%) were HCA and 34 (52.3%) were CA. In 22 (33.8%) cases, >2 blood cultures were positive. B. fragilis was most frequently isolated (n = 25 [38.5%]), then B. thetaiotaomicron (n = 9 [13.8%]), B. vulgatus (n = 5, [7.7%]), B. uniformis (n = 5 [4.6%]), B. distasonis (n = 2 [3.1%]), B. sartorii (n = 2 [3.1%]), B. capillosus (n = 1 [1.5%]), and B. ovatus (n = 1 [1.5%]). After introducing MALDI-TOF, the number of unidentified Bacteroides species fell from 12 (18.5%) to 5 (7.7%). Sensitivity to ampicillin/sulbactam, cefametazole, and clindamycin was 85.2%, 92.6%, and 59.3%, respectively. Most bacteremia (51 [78.5%]) were of intra-abdominal origin. Baseline characteristics and immunocompromised status of HCA and CA Bacteroides bacteremia patients were similar, except for diabetes, which was more frequent in HCA cases (Table). There was significantly higher 7- and 30-day mortality in HCA than in CA cases (P = 0.03).

Conclusion. The higher mortality in HCA Bacteroides bacteremia suggests the need for appropriate multidisciplinary management of these cases.

Comparison of HCA vs. CA bacteremia episodes due to Bacteroides species

| CA (n = 31), n (%) | HCA (n = 34), n (%) | p-value |
|-------------------|---------------------|---------|
| Mean age (SD)     | 75.2 (11.6)         | 68.3 (17.5) | 0.28    |
| Male              | 22 (75.9)           | 27 (72.2)  | 0.78    |
| Diabetes          | 3 (10)              | 13 (33.3)  | 0.04    |
| Solid tumor       | 9 (31)              | 16 (45.7)  | 0.31    |
| B. fragilis       | 8 (26.6)            | 15 (44.1)  | 0.20    |
| B. thetaiotaomicron | 5 (17.2)       | 4 (11.8)   | 0.88    |
| 7-day mortality   | 0 (0)               | 6 (16.7)   | 0.03    |
| 30-day mortality  | 2 (6.5)             | 11 (32.4)  | 0.05    |
| Mean length of stay | 35.7 (26.5)     | 40.1 (53.5) | 0.33    |
| after bacteremia (SD) | 13 (44.8)     | 14 (41.2)  | 0.62    |

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478. Hospital Onset Staphylococcus aureus Bacteremia is a Better Measure than MRSA Bacteremia in Assessing Infection Prevention: Evaluation of 51 US Hospitals

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Background. Hospital Onset (HO) Methicillin-resistant Staphylococcus aureus (MRSA) bacteremia is publicly reported and tied to the Hospital-Acquired Conditions Reduction program. It reflects a surrogate of risk of infection of MRSA invasive disease in the hospital setting, and reported as a standardized infection ratio that adjusts for admission MRSA prevalence, hospital size and medical school affiliation. However, it may not adequately represent all HO S. aureus bacteremia, which is unaffected by the prevalence of resistance to methicillin.

Methods. We compared the rates of NSHD-defined laboratory ID events for HO methicillin susceptible S. aureus (MSSA) and MRSA bacteremia in 51 hospitals (small, <100 beds, n = 15; medium, 100–300 beds, n = 15; large, >300 beds, n = 21) from a single surveillance system over a 12-month period abstracting data from one clinical decision support system. We also compared the rates of HO S. aureus bacteremia based on hospital size.

Results. 340 HO S. aureus bacteremia events (1.22 per 10,000 patient-days) occurred during calendar year 2016 (MSSA n = 218, 64%; MRSA n = 122, 36%). 14/15 small hospitals did not have any HO S. aureus bacteremia events during the study period. HO MSSA bacteremia rates were 0.58 and 0.77 per 10,000 patient-days for medium size and large-size hospitals respectively (P = 0.094). In contrast, HO MRSA bacteremia rates were 0.71 and 0.47 per 10,000 patient-days for medium size and large-size hospitals respectively (P = 0.045). There was no correlation between HO MSSA and MRSA bacteremia for large and medium size hospitals (Figure).

Conclusion. By measuring only HO MRSA, a significant proportion of patients with increased morbidity and mortality are overlooked. HO S. aureus bacteremia may provide a better measure to use to evaluate invasive S. aureus risk in the hospital setting, and would mitigate the MRSA prevalence factor. These findings are important when we evaluate policy related to what is considered a hospital acquired condition.

Figure: Relation between HO MSSA and MRSA Bacteremia for Based on Hospital Size.

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479. Preventability of Hospital Onset Bacteremia and Fungemia: A Pilot Study of a Potential New Indicator of Healthcare-Associated Infections

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Background. Central-line associated bloodstream infections (CLABSI) are a subset of hospital-onset bacteremia and fungemia (HOB), a potential indicator of healthcare-associated infections (HAIs) that can be objectively and directly obtained from electronic health records. We undertook a pilot study to elucidate the causes and determine the preventability of HOB.

Methods. HOB was defined as growth of a microorganism from a blood culture obtained ≥3 calendar days after admission in a hospitalized patient. A random sampling of HOB events across 2 academic hospitals and a pediatric intensive care unit in a third academic hospital were identified between October 1, 2014 and September 30, 2015. Medical records were reviewed to identify potential risk factors and sources of bacteremia. Two physicians used underlying patient factors, microorganism, and other clinical data to rate the preventability of each HOB event in an “ideal hospital” on a 0–6-point Likert scale.

Results. Medical records for 60 HOB events (20 in each hospital) were reviewed. The most common organisms were coagulase-negative Staphylococcus (28%) and Candida spp. (17%) (Figure 1). The most likely sources of bacteremia and fungemia included CLABSI (28%) and skin contaminants/commensals (17%) (Figure 2). Forty-nine percent of HOB events not attributed to skin commensals were rated as potentially preventable (Figure 3). Fifty percent of HOB events randomly sampled across 2 hospitals occurred in an intensive care unit. Central venous catheters, urinary S182 • OFID 2017:4 (Suppl 1) • Poster Abstracts