Compared with American hospitals, GNPs that
Stenotrophomonas maltophilia
Colonization pressure at the unit level is known to
e antimicrobial stewardship
UniBH; Escherichia coli
(MCP) and
ages ranged from 0 to 90 years, with a mean of
mean colonization pressure
41 Suppl 1; 2020
We designed a base
Sriram
None
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Adding unit-level CDI colo-
None
5
Objective:
S. maltophilia
6 meters).
Conclusions:
In 5
UniBH; Jose A. Ferreira, Federal University of
infections in hospitals.
0, 1,
None
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55 years (SD, 26 years) and a medi
55 years (SD, 26 years) and a medi
From hospital floor plans.
considering CDI cases at different distance thresholds from the
Total to the base model, we add 2
measures, mean colonization pressure (MCP) and sum colonization
pressure (SCP) of CDI at the unit level to obtain new models.
To the base model, we also added CDI colonization pressure by
considering CDI cases at different distance thresholds from the
focal patient. Distances between patient rooms were extracted
from hospital floor plans. Results: Adding unit-level CDI coloni-
zation pressures to the base model improved performance.
However, adding CDI colonization pressures due to roommates
and due to patients at different distances improved the model
much more (Table 1). The top (resp. bottom) row shows in-sam-
ple (resp. out-of-sample) C-statistics for the base model, the base
model with unit-level MCP, the base model with roommate
MCP, and the base model with MCP from patients are different
distances added as separate features. C-statistics for the base
model and the base model with unit CDI pressure (SCP and
MCP) are compared in Fig. 1 with C-statistics from the base
model with CDI pressure from patients at distances D = 0, 1,
2, 3, 4, 5, 10, 15, 20 hops (1 hop = 5–6 meters). Conclusions:
Our results support the hypothesis that unit CDI colonization
pressure is a risk factor for CDI. However, by incorporating spa-
tially granular notions of distances between patients in our
analysis, we were able to demonstrate that the true source of
CDI pressure at the UIHC is almost exclusively attributable to
roommates and patients in adjacent rooms.
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Presentation Type:
Poster Presentation
Hospital Infections by Stenotrophomonas maltophilia: Results in Five Years of Multicentric Study
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Background: Stenotrophomonas maltophilia is an emerging patho-
gen responsible for high morbidity and mortality rates. Hospital infec-
tions caused by this bacteria, especially in intensive care centers, are
concerning for the health system, given that the microorganism is
multidrug resistant to most antimicrobials available. Objective:
Therefore, the present study is built from an analysis of the variables
related to nosocomial infections caused by S. maltophilia in hospitals
in Brazil, to display points of major concern. Methods: We used the
data collected by the Infection Prevention and Control Service to
clarify the incidence rate of Stenotrophomonas maltophilia in
Brazilian hospitals as well as the gross lethality of these infections
and the profiles of infected patients. We collected and analyzed epi-
demiological data from 10 hospitals in Brazil for the period July 2014
to June 2019 according to the CDC NHSN protocol. Results: In 5
years, 93 Stenotrophomonas maltophilia infections were diagnosed
in the hospitals analyzed. Overall, 61 occurred in men (66%) and
32 occurred in women (34%). Furthermore, 47 cases (51%) occurred
in adult ICUs; 19 cases (20%) followed vascular surgery; 9 (10%) cases
occurred in the neonatal ICU; 7 (8%) cases were from the medical
clinic; and 11 (12%) were from other clinics. The incidence rate
was 1.2 cases for 10,000 hospitalizations, ranging from 0.0 to 2.8
(Fig. 1). Patients’ ages ranged from 0 to 90 years, with a mean of
55 years (SD, 26 years) and a median of 64 years. Time between
admission and diagnosis of infection was 1 to 102 days, with a mean
of 24 days (SD, 21 days) and a median of 17 days. The gross lethality
for S. maltophilia infection was 43 of 93 (46%) (95% CI, 35.8%–
56.9%). The frequencies of specific infections were as follows
(Fig. 2): pneumonia, 26 (28%); tracheobronchitis, 22 (24%); pri-
mary bloodstream infection, 18 (19%); skin and soft-tissue infection,
13 (14%); local infection, 7 (8%); vascular access infection, 3 (3%);
Conclusions: *Stenotrophomonas maltophilia* infection is a rare and highly lethal event that usually occurs after 2 weeks of hospitalization. The most affected region is the respiratory tract, with a higher incidence in patients aged >60 years or in the ICU. Early and accurate investigations of multiresistant microorganisms in a hospital setting are needed to reduce patient morbidity and mortality.

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Disclosures: None
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Presentation Type: Poster Presentation

Hospital Outbreak of Respiratory Syncytial Virus in Neonatal Intensive Care Unit: The Risk of Admitting External Patients

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**Background:** Acute viral bronchiolitis caused by respiratory syncytial virus (RSV) may be a manifestation of high severity in neonatal-ICU (NICU) patients, with high risk of in-hospital cross transmission and outbreaks. During the epidemic seasonal period, intense viral circulation occurs in community; thus, transmission in the NICU is difficult to control. **Objective:** We describe an outbreak that occurred in a NICU in a public hospital in São Paulo state, Brazil. We also discuss the role of admitting external newborns with community-acquired virus in the incidence of these outbreaks in the NICU. **Methods:** In 2017 in Campinas, an RSV epidemic occurred during the seasonal period, resulting in a outbreak at the Campinas maternity hospital. A retrospective investigation was performed, and patients were analyzed for clinical and epidemiological characteristics and for risk factors for poor prognosis. We included neonates admitted in NICU with positive nasal lavage for RSV from April to July 2017. Statistical analysis were performed with $\chi^2$ test for the categorical variables and the Student $t$ test for the continuous variables comparing the newborn group from the community (external) with infected newborns in the hospital (internal). $P < .05$ was considered significant. **Results:** Of 44 neonates with RSV during this period, 32 were external and 12 were internal (Fig. 1). The mean gestational age of the external neonates was 38 weeks and 2 days, whereas the mean gestational age of the internal neonates was 29 weeks and 1 day ($P < .001$). The mean gestational age of the external neonates was 38 weeks and 2 days, whereas the mean gestational age of the internal neonates was 29 weeks and 1 day ($P < .001$). The hospitalization time was higher in the internal group. Community neonates (external group) were mostly term-born, with no comorbidities, and they had a more favorable clinical course. In the literature, neonates infected with RSV at the hospital have several risk factors for poor prognosis, with a 13.5% mortality rate. **Discussion:** RSV outbreaks have great relevance in hospital settings, especially in the NICU, where there are a large number of vulnerable patients and a high