A hematology/oncology unit-specific antibiogram emphasizes the need for intensified local stewardship

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BACKGROUND

- Appropriate empiric antibiotics are key for patients with hematologic malignancies (HM) and bone marrow transplants (BMT) with febrile neurtropenia
- Patients with HM and BMTs are at risk for multidrug resistant organisms
  - Prior antibiotic use and prolonged hospital exposures
- Hospital wide antibiograms (AB) may not accurate reflect resistance patter
- We hypothesized that a unit-specific AB would have decreased susceptibilities compared to our hospital-wide AB

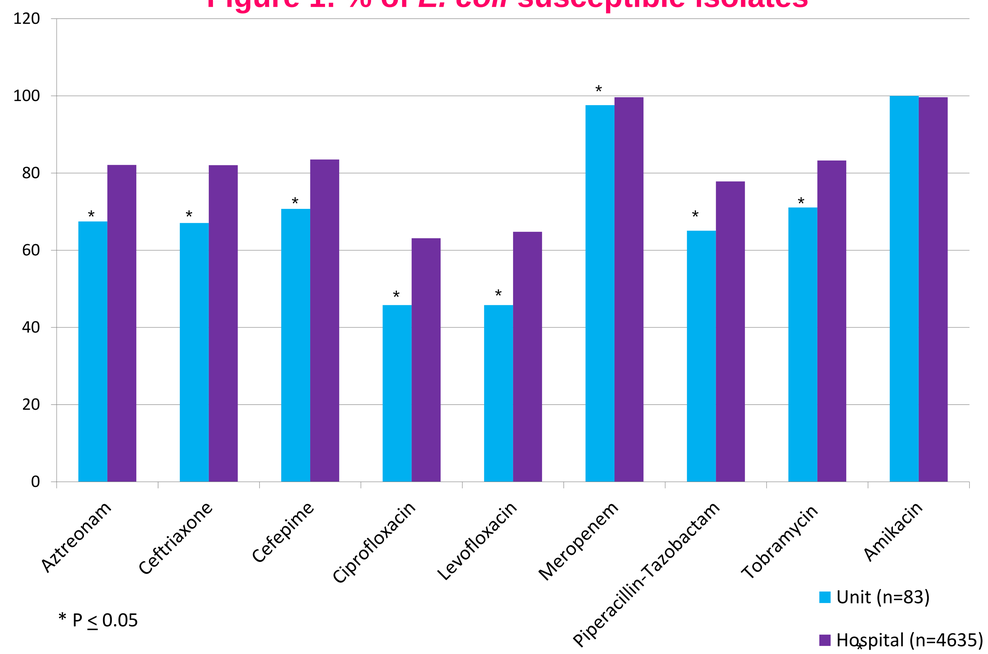
METHODS

Reviewed positive cultures with antimicrobial susceptibilities on a closed 32-bed hematology-oncology unit (7/2016-6/2019)

Organisms with ≥ 30 isolates were included in AB per the Clinical and Laboratory Standards Institute standards

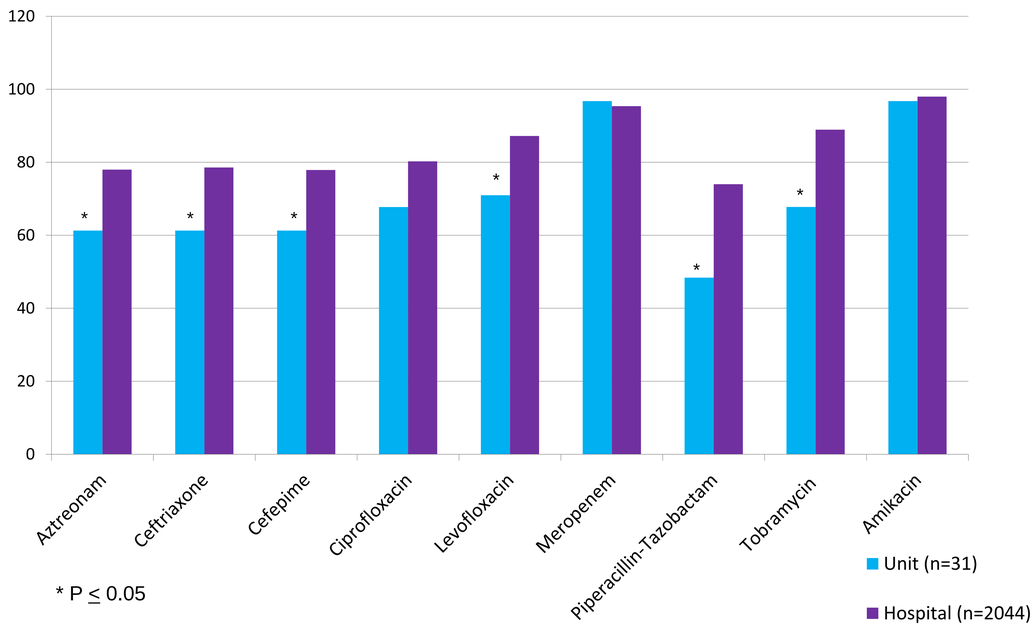
Susceptibilities compared to hospital-wide AB from 7/2016-6/2019 using Fisher's exact test.

Figure 1: % of *E. coli* susceptible isolates



* P ≤ 0.05

Figure 2: % of *K. pneumoniae* susceptible isolates



* P ≤ 0.05

RESULTS

- Two organisms met CLSI criteria:
- *Escherichia coli* (n=83)
  - –Unit isolates had lower susceptibilities to all tested antibiotics, expect amikacin (Figure 1)
- *Klebsiella pneumoniae* (n=31)
  - –Unit isolates had lower susceptibilities to aztreonam, ceftriaxone, cefepime, levofloxacin, piperacillin-tazobactam and tobramycin (Figure 2)

CONCLUSIONS

- A hematology-oncology unit-specific AB found higher resistance in *Escherichia Coli* and *Klebsiella pneumoniae* isolates compared with the hospital-wide AB.
- Findings can help guide appropriate empiric antibiotic therapy
- Results suggest a need for intensified stewardship measures to prevent multi-drug resistance in this population.

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