

POSTER PRESENTATION

Open Access

# Clinical features of ESBL-producing *E. coli* responsible for bloodstream infections in French patients and molecular characterization of isolates

A Gaultier<sup>1</sup>, N Girard<sup>2,3</sup>, X Bertrand<sup>4</sup>, R Quentin<sup>5</sup>, NL Van Der Mee-Marquet<sup>6\*</sup>

From 3rd International Conference on Prevention and Infection Control (ICPIC 2015)  
Geneva, Switzerland. 16-19 June 2015

## Introduction

We conducted an annually bloodstream infection (BSI) survey into hospitals overlapping the Centre France region (2.6 million). Since 2005, the incidence of BSIs associated with ESBL-producing *E. coli* (ESBLEc) increased.

## Objectives

To improve the understanding of the pathway and the determination of the risk factors of ESBLEc-BSIs.

## Methods

For each BSI, were reported patient age, sex, recent hospitalization, living in nursing home, recent antibiotherapy, urinary catheterization, BSI source, death within 7 days of diagnosis.

BSI isolates were studied: antimicrobial susceptibility, determination of molecular mechanism associated with ESBL-production, genetic diversity of ESBLEc (MLST).

## Results

During the survey (474,953 PDs), 443 *E. coli* BSI were identified, including 31 ESBLEc (7.0%; 30/31 CTX-M). Incidence of community acquired(CA)- and healthcare associated(HCA)-BSI were 0.47/100,000 and 0.040/1,000 PDs, respectively.

## Major findings

For ESBLEc-CA-BSIs, male/female ratio was 1.4, median age 80, urinary BSI source in 50% of cases, recent antibiotherapy in 33 %. Most ESBLEc were resistant to fluoroquinolones (67%), SXT/TMP (67%). High genetic diversity (8 STs including 4 ST131).

For ESBLEc-HCA-BSI, male/female ratio was 0.9, median age 75, urinary BSI source in 63% of cases (recent catheterization in 1/2), recent antibiotherapy in 58%. Most ESBLEc were resistant to fluoroquinolones (79%), SXT/TMP (63%). Low genetic diversity (9 STs including 7 ST131).

Among BSI, ESBLEc-BSI were associated with health-care ( $p=0.004$ ), long-stay unit ( $p=0.018$ ), recent antibiotherapy ( $p=0.002$ ). ESBLEc were associated with resistance to fluoroquinolones, SXT/TMP and genta./tobramycine ( $p<0.001$ ).

Among ESBLEc-BSI, clinical determinants and BSI characteristics similar whatever the clonal group excepted for ST131 associated with long-stay unit ( $p=0.042$ ).

Among ST131-BSI, clinical determinants and BSI characteristics similar for ESBLEc and non ESBLEc excepted median age higher in ESBLEc (80/67).

## Conclusion

Recent antibiotherapy (and easy spread into long-stay units for ST131): likely the major risk factor for ESBLEc BSI.

## Disclosure of interest

None declared.

## Authors' details

<sup>1</sup>Département de Bactériologie et Hygiène, France. <sup>2</sup>Centre Hospitalier Universitaire de Tours, Tours, France. <sup>3</sup>RHC-arlin, Besançon, France. <sup>4</sup>Service d'hygiène, Centre Hospitalier Universitaire de Besançon, Besançon, France. <sup>5</sup>Service de Bactériologie et Hygiène, Centre Hospitalier Universitaire de Tours, Tours, France. <sup>6</sup>Département de Bactériologie et Hygiène, Réseau des hygiénistes du Centre, Centre Hospitalier Universitaire de Tours, Tours, France.

\*Département de Bactériologie et Hygiène, Réseau des hygiénistes du Centre, Centre Hospitalier Universitaire de Tours, Tours, France  
Full list of author information is available at the end of the article

Published: 16 June 2015

doi:10.1186/2047-2994-4-S1-P125

**Cite this article as:** Gaultier *et al.*: Clinical features of ESBL-producing *E. coli* responsible for bloodstream infections in French patients and molecular characterization of isolates. *Antimicrobial Resistance and Infection Control* 2015 **4**(Suppl 1):P125.

**Submit your next manuscript to BioMed Central  
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at  
[www.biomedcentral.com/submit](http://www.biomedcentral.com/submit)

