

ORAL PRESENTATION

Open Access

O045: Acquisition of extended-spectrum beta-lactamase (ESBL) positive *E.coli* in the community: the impact of cultural background and diet

R Leistner^{1*}, E Meyer¹, P Gastmeier¹, P Dem¹, Y Pfeifer², C Eller², F Schwab¹,
The RESET research consortium: Resistance in animals and humans¹

From 2nd International Conference on Prevention and Infection Control (ICPIC 2013)
Geneva, Switzerland. 25-28 June 2013

Introduction

The prevalence of ESBL producing *E.coli* strains in the community has strongly risen since recent years. Travel to high endemic countries has been identified as a risk factor for community-acquired colonization with these bacteria. Until today further factors influencing the spread of ESBL in the community have not been sufficiently analyzed.

Objectives

The objective of this study was to assess risk factors for a community-acquired colonization with ESBL positive *E.coli*.

Methods

From May 2011 to January 2012 we performed a case control study at the Charité university hospital Berlin. Cases were defined as patients diagnosed with ESBL positive *E.coli* colonization within 72 h after admission. Controls were patients with ESBL negative *E.coli* colonization. Cases and controls with ESBL colonization within the last 12 months were excluded. In a questionnaire based interview we assessed parameters like body mass index (BMI), nutritional habits, travel habits, recent hospital admission, recent use of antibiotics and household situation. We assessed the impact of cultural background by assessing the patients' best mastered language. ESBL positive strains were further analyzed by PCR to determine the ESBL genotype at the Robert Koch Institute, Wernigerode. Univariable and multivariable analysis were performed to identify independent

risk factors for acquisition of ESBL positive *E.coli* strains.

Results

Within the study period we included 85 cases and 170 controls. Median age was 67 years (IQR 54-73, $p=0.482$) 56% of the study population was male ($p=0.714$). The most common ESBL genotypes were CTX-M-1 (44%, $n=37$) and CTX-M-15 (28%, $n=24$). Asian mother tongue (OR=13.4; $p<0.001$) and frequent pork meat consumption (>2 x per week) (OR=3.5; $p<0.001$) were independent risk factors for colonization with ESBL in the conditional regression analysis.

Conclusion

Patients with cultural background of countries where ESBL is highly endemic might have a higher risk for colonization with ESBL. Furthermore the frequent consumption of certain types of meat can be associated with ESBL colonization. Common ESBL genotypes in the community are CTX-M-1 and CTX-M-15.

Disclosure of interest

None declared.

Author details

¹Institute of Hygiene and Environmental Medicine, Charité Berlin, Berlin, Germany. ²Nosocomial Infections, Robert Koch Institute, Wernigerode, Germany.

Published: 20 June 2013

doi:10.1186/2047-2994-2-S1-O45

Cite this article as: Leistner et al.: O045: Acquisition of extended-spectrum beta-lactamase (ESBL) positive *E.coli* in the community: the impact of cultural background and diet. *Antimicrobial Resistance and Infection Control* 2013 **2**(Suppl 1):O45.

¹Institute of Hygiene and Environmental Medicine, Charité Berlin, Berlin, Germany

Full list of author information is available at the end of the article