

## BACKGROUND / OBJECTIVES

• Carbapenems (CBP) : antibiotics more and more used in relation with increasing prevalence of extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae.

⇔ Some bacteria have developed CBP resistant mutations.

• This epidemiological situation should make us wonder about CBP prescription.

⇒ The aim of this study was to describe prescribing patterns of imipenem/cilastatin, ertapenem and meropenem in elderly inpatients: context and impact of an interdisciplinary approach for prescription analysis.

## MATERIALS AND METHODS

**What?** A retrospective study of CBP prescription

**When?** Perform over a ten-month period : March-December 2011

**Where?** In geriatric departments (313 beds)

**How?** Data were collected from:

- electronic medical records
- bacteriological analysis results
- email exchanges between infectious disease physician (IDP),

**bacteriologists and pharmacists** : monitoring system of the prescriptions

Items collected



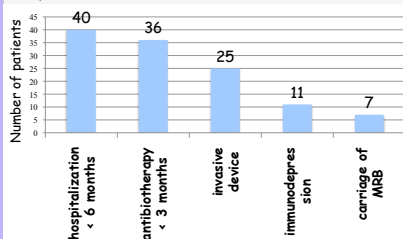
Characteristics of:

- Patients
- Prescriptions
- Bacteriology
- Prescription analysis

## RESULTS

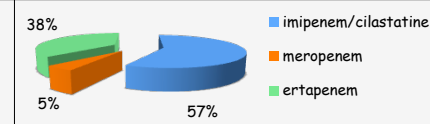
### Patients

- n=55
- Mean age: 83; Sex ratio: 0,72
- Before hospitalization:
  - 58% were living at home, 42% in institution
  - 71% accumulated between 2 and 5 risks factors of multi-resistant bacteria (MRB)
- Repartition of risk factors for MRB :



### Prescription

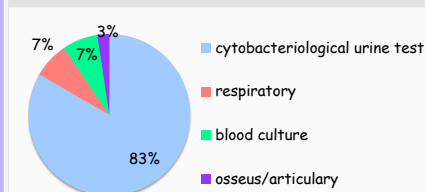
• n=61

Repartition of prescription	 <ul style="list-style-type: none"> <li>imipenem/cilastatin</li> <li>meropenem</li> <li>ertapenem</li> </ul>
Main infectious sites	Urinary tract infections (61%) - pneumonia (25%) ⇒ 59% of nosocomial infections
Line of treatment	Second-line treatment (39%) First-line treatment (30%) ⇒ Ceftriaxone +++ in first line
Overall duration of therapy	11 days

### Bacteriology

69 % of prescriptions were documented

#### Type of bacteriological samples



#### Most common isolated bacteria

- E. coli BLSE (32%)
- Pseudomonas aeruginosa (13%)
- Klebsiella pneumoniae BLSE (6%)

#### ESBL-producing strains

- ESBL bacteria (51%)
- 5 isolated-ESBL strains are community-acquired

### Prescription analysis

- 61% of prescriptions were reassessed by an IDP
- 76% of them were in accordance with recommendations
- 18% of them were stopped or changed for narrow-spectrum-antibiotic

## DISCUSSION / CONCLUSION

• CBP prescriptions seem relatively well controlled in geriatric care units

• Due to multidisciplinary prescriptions analysis:

⇒ infectious disease physician (IDP), bacteriologists and pharmacists

• Evaluation of the impact of monitoring prescriptions on CBP usage requires a more detailed follow-up