

## Chapter IV

# Working sessions of the Scientific Board

### 1 Organisation

The French National Observatory for Epidemiology of Bacterial Resistance to Antimicrobials (ONERBA) was founded in 1997 in order to:

- gather and analyse data regarding bacterial resistance to antimicrobials in France, and to compare these data with those obtained in other countries;
- provide data regarding bacterial resistance to antimicrobials to Health Authorities, Scientific Organisations, and health Professionals, upon request;
- promote the quality of data collection and analysis;
- initiate research on less well-documented issues of public interest;
- participate in training activities associated with the issues noted above, particularly by means of presentations and publications.

In order to meet ONERBA's objectives, a Scientific Board (SB) was created in 1997. A number of the members of the SB were renewed in 2003, as is recommended in ONERBA's statutes and will be renewed in 2007. The activities of the SB and its relationship with the networks are described in the charter of the networks represented on the SB of ONERBA (see chapter V).

The SB meets during regular working sessions in order to:

- select topics of interest;
- define methods for collection and analysis;
- analyse and validate data;
- implement specific studies.

### 2 Calendar of the working sessions of the Scientific Board in 2006

January 12, March 16, May 11, June 29, October 26, November 22.

### 3 Summary of the working sessions of the Scientific Board in 2006

A detailed report of the working parties can be found in the French part of this chapter.

### 4 ONERBA cross-networks surveys

In 2006, ONERBA conducted two nationwide surveys through its networks.

**The first survey** sought to delineate the epidemiology of ESBL-producing enterobacteria in urinary tract infections in outpatients.

The survey took place in 2006 in 24 private laboratories. All strains with decreased susceptibility to third generation cephalosporins (MIC < 1 mg/L) or displaying synergy between the latter drugs and clavulanate acid were sent to a reference laboratory (C. Quentin, C. Arpin, Bordeaux) for further analysis. Demographic data were collected for each patient (F. Grobost). In addition, plasmidic resistance to fluoroquinolones (*qnr* genes) were searched for in a second reference laboratory (E. Cambau, Créteil).

A total of 6771 isolates were collected during the study period including 150 isolates fulfilling at least one definition for possible ESBL production. Finally, 72 isolates were confirmed to be ESBL positive after PCR analysis, resulting in an overall prevalence of 1.1% among all enterobacteria isolated in urines of ambulatory patients during the study period.

ESBL-producing enterobacteria belong to the following species:

- 48 *Escherichia coli* (67%) including 40 CTX-M positive strains;
- 10 *Enterobacter aerogenes* (14%), all TEM positive;
- 4 *Citrobacter koseri* (6%) all TEM positive;
- 4 *Proteus mirabilis* (6%) including 1 CTX-M;
- 3 *Klebsiella pneumoniae* (4%) including 1 CTX-M;
- 1 *Klebsiella oxytoca* (1%) that was ESBL-positive and plasmidic-AmpC positive;
- 1 TEM positive *Citrobacter freundii* (1%);
- 1 TEM positive *Providencia stuartii* (1%).

Only one strain was *qnr*-positive (*K. oxytoca*).

Among ESBL carriers, 62% had a history of previous hospitalisation. Among the 10 patients with no history of previous hospitalisation, chronic disease or contact with the health care system, 80% were female and all harboured CTX-M-positive *E. coli*.

In conclusion, the proportion of ESBL in UTI in ambulatory patients in France is around 1% and a majority of carriers have been exposed to the health care system before diagnosis.

**The second survey** aimed at measuring the magnitude of the digestive carriage of vancomycin-resistant enterococci (VRE) in French hospitals.

During a 6-month period, laboratories of 73 hospitals covering 18% of all French hospital beds sought for VRE in stools sent for *Clostridium difficile* search, for quantitative coproculture in

haematology-oncology patients, or in rectal swabs sent for ESBL screening in ICUs.

Samples were put in an enrichment broth containing 6 mg/l vancomycin for 24 hours before being plated on selective chromogenic agar (AES, France). All isolates susceptible of being a VRE were sent to the French reference laboratory (R. Leclercq, Caen) for further analysis.

A total of 5900 samples (3939 patients) were analysed for presence of VRE (60% were from ICU patients, 30% stool for *C. difficile* search, and 10% from haematology or cancer patients). Among the 86 isolates sent to the reference laboratory, only 12 were proven to be VRE: 8 vanA resistance (8 *E. faecium*), and 4 vanB resistance (3 *E. faecium* and 1 *E. hirae*). The 12 isolates originated from 8 hospitals, including 1 with an outbreak (4 strains).

In summary, VRE digestive carriage is very low in France among inpatients.

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## 5 Sessions organised by ONERBA in National Meetings in 2006

### ■ ONERBA – JNI 2006, Bordeaux

- « Resistance, a challenge for today and tomorrow » (V. Jarlier)
- « Co-resistance in Gram positive cocci » (J. Robert)
- « Co-resistance in Gram negative rods » (X. Bertrand)
- « Cross-resistance and co-resistance: ways of multiresistance acquisition » (I. Podglajen)
- « Consequences of multiresistance: which antibiotics to use? » (B. Schlemmer).

### ■ ONERBA - RICAI 2006:

#### « Emerging multiresistances »

- « Digestive carriage of vancomycin resistant enterococci: ONERBA studies » (N. Fortineau)
- « Vancomycin resistant enterococci outbreaks in France » (V. Jarlier)
- « ESBL-producing enterobacteria in the community: an ONERBA study » (F. Grobst)
- « Clonality of ESBL-producing enterobacteria » (M-H Nicolas-Chanoine).

## 6

## Publications of ONERBA and ONERBA's networks in 2006

### ■ ColBVH

Eloy O, Blanc V, Pina P, Gaudart A, Bressolle ML, Plainvert C, Decousser JW, Pangon B, Allouch PY; le Collège de bactériologie virologie hygiène (ColBVH). Epidemiology of candidemia: results of a one month French hospitals-based surveillance study in 2004. *Pathol Biol (Paris)*. 2006 Oct-Nov;54(8-9):523-30.

Decousser JW, Methlouthi I, Pina P, Collignon A, Allouch P; ColBVH Study Group. New real-time PCR assay using locked nucleic acid probes to assess prevalence of ParC mutations in fluoroquinolone-susceptible *Streptococcus pneumoniae* isolates from France. *Antimicrob Agents Chemother*. 2006 Apr;50(4):1594-8.

### ■ Resapath

Meunier D, Jouy E, Lazizzera C, Kobisch M, Madec JY. CTX-M-1- and CTX-M-15-type beta-lactamases in clinical *Escherichia coli* isolates recovered from food-producing animals in France. *Int J Antimicrob Agents*. 2006 Nov;28(5):402-7.

Botrel M-A, Chazel M, Meunier D, Jouy E, Kobisch M, Madec J-Y, Calavas D. Le RESAPATH : analyse critique et propositions d'amélioration. *Epidemiol et Santé animale* 2006 ; 50 :157-68.

### ■ C-CLIN Sud-Ouest

Fillaux J, Dubouix A, Conil JM, Laguerre J, Marty N. Retrospective analysis of multidrug resistant *Acinetobacter baumannii* strains isolated during a 4-year period in a university hospital. *Infect Control Hosp Epidemiol*. 2006 Jul;27(7):647-53.

Georges B, Conil JM, Dubouix A, Archambaud M, Bonnet E, Saivin S, Lauwers-Cancès V, Cristini C, Cougot P, Decun JF, Mathe O, Chabanon G, Marty N, Seguin T, Houin G. Risk of emergence of *Pseudomonas aeruginosa* resistance to beta-lactam antibiotics in intensive care units. *Crit Care Med*. 2006 Jun;34(6):1636-41.

### ■ CNR de la Résistance des Mycobactéries aux Antituberculeux

Guerrin-Tran E, Thiolet JM, Rousseau C, Henry S, Poirier C, Che D, Vinas JM, Jarlier V, Robert J. An evaluation of data quality in a network for surveillance of *Mycobacterium tuberculosis* resistance to antituberculosis drugs in Ile-de-France region-2001-2002. *Eur J Epidemiol*. 2006;21(10):783-5.

### ■ CNR des Pneumocoques

Cohen R, Levy C, de La Rocque F, Gelbert N, Wollner A, Fritzell B, Bonnet E, Tetelboum R, Varon E. Impact of pneumococcal conjugate vaccine and of reduction of antibiotic use on nasopharyngeal carriage of nonsusceptible pneumococci in children with acute otitis media. *Pediatr Infect Dis J*. 2006 Nov;25(11):1001-7.

Varon E, Houssaye S. Resistance of infectious agents involved in low respiratory tract infections in France. *Med Mal Infect.* 2006 Nov-Dec;36(11-12):555-69.

Varon E, Houssaye S, Grondin S, Gutmann L; Groupe des Observatoires de la Résistance du Pneumocoque. Nonmolecular test for detection of low-level resistance to fluoroquinolones in *Streptococcus pneumoniae*. *Antimicrob Agents Chemother.* 2006 Feb;50(2):572-9.

#### ■ Réseau Franc-Comtois de Lutte contre les Infections Nosocomiales

Floret N, Bailly P, Bertrand X, Claude B, Louis-Martinet C, Picard A, Tueffert N, Talon D. Results from a four-year study on the prevalence of nosocomial infections in Franche-Comté: attempt to rank the risk of nosocomial infection. *J Hosp Infect.* 2006 Aug;63(4):393-8.

#### ■ AFORCOPI-BIO

Ficca G, Chauvel M, de Mouy D ; Membres du Réseau des Biologistes de Ville de l'AFORCOPI-BIO. Étude de la prévalence de la résistance à la méthicilline chez *Staphylococcus aureus* communautaire. *Med Mal Infect* 2006;36:207-12.