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## Temporal Variation in Antibiotic Resistance of *Acinetobacter baumannii* in a Teaching Hospital in Tunisia: Correlation with Antimicrobial Consumption

Jaidane N.<sup>1,2,3</sup>, Mansour W.<sup>1</sup>, Bonnin RA.<sup>3,4,5</sup>, Ghardallou M.<sup>6</sup>, Chaouch C.<sup>1,2</sup>, Golli R.<sup>7</sup>, Kalboussi N.<sup>7</sup>, Boujaafar N.<sup>1,2</sup>, Bouallegue O.<sup>1,2</sup> and Naas T.<sup>3,4,5,\*</sup>

<sup>1</sup>UR 12 SP 37, Emerging Bacterial Resistance and Safety of Care, Department of Clinical Microbiology, University Hospital of Sahloul, Sousse, Tunisia

<sup>2</sup>Clinical Microbiology Laboratory, University Hospital of Sahloul, Sousse, Tunisia

<sup>3</sup>EA7361, Université Paris-Sud, Université Paris-Saclay, LabEx Lermite, Bacteriology-Hygiene unit, APHP, Hôpital Bicêtre, Le Kremlin-Bicêtre, France

<sup>4</sup>EERA "Evolution and Ecology of Resistance to Antibiotics" Unit, Institut Pasteur-APHP-Université Paris Sud, Paris, France

<sup>5</sup>Associated French National Reference Center for Antibiotic Resistance "Carbapenemase-producing Enterobacteriaceae" APHP, Hôpital Bicêtre, Le Kremlin-Bicêtre, France

<sup>6</sup>Department of Community Health-Laboratory of research LR12ES03, Faculty of Medicine 16 Ibn El Jazjar, University of Sousse, Sousse, Tunisia

<sup>7</sup>Pharmacy department of University Hospital of Sahloul, Sousse, Tunisia

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### SUPPLEMENTARY FIGURES AND TABLES

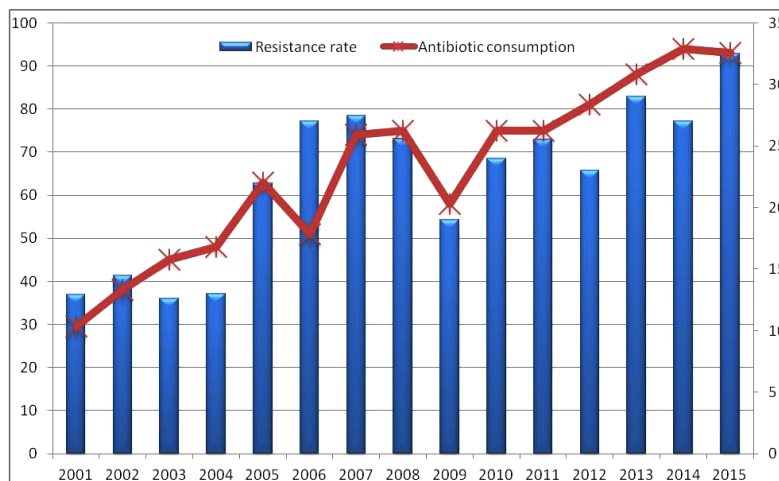


Fig. (S1).

Table S1. Antimicrobial Resistance rates (%) and  $\chi^2$  statistical comparison of 691 *Acinetobacter baumannii* clinical isolates over four years in a teaching hospital in Tunisia (2012-2015).

|                             | 2012              | 2013 | 2014 | 2015 | P value |
|-----------------------------|-------------------|------|------|------|---------|
| Antimicrobial Agent         | Resistance Rate % |      |      |      |         |
| Ticarcillin                 | 91,3              | 90   | 93,3 | 94,5 | 0,29    |
| Ticarcillin/clavulanic acid | 80,1              | 88,6 | 83,9 | 93,9 | 0,0005* |

(Table S1) contd.....

| Antimicrobial Agent              | 2012                     | 2013       | 2014       | 2015       | P value            |
|----------------------------------|--------------------------|------------|------------|------------|--------------------|
|                                  | <b>Resistance Rate %</b> |            |            |            |                    |
| Piperacillin                     | 92,1                     | 89,1       | 90,5       | 92,7       | 0,64               |
| Piperacillin/tazobactam          | 82,4                     | 86,2       | 90,5       | 90,7       | 0,042*             |
| Ceftazidime                      | 89,7                     | 88,9       | 86         | 93,1       | 0,207              |
| Cefpirome                        | 91,7                     | 90         | 90         | 90,9       | 0,931              |
| Imipenem                         | 81                       | 88         | 94         | 93         | 0,0001*            |
| Gentamicin                       | 83,9                     | 81,4       | 84,6       | 90,7       | 0,091              |
| Tobramycin                       | 63,9                     | 45         | 69,3       | 67,4       | 0,000029*          |
| Netilmicin                       | 40,2                     | 21,4       | 51,4       | 46,2       | <10 <sup>6</sup> * |
| Amikacin                         | 78,5                     | 79,9       | 86,7       | 71,3       | 0,0038*            |
| Tetracycline                     | 70,1                     | 75,9       | 76,1       | 82,7       | 0,035*             |
| Tigecycline                      | 0                        | 89,4       | 75,4       | 61,1       | <10 <sup>6</sup> * |
| Ofloxacin                        | 94,7                     | 92,6       | 86,5       | 92,7       | 0,029*             |
| Ciprofloxacin                    | 94,2                     | 92,9       | 87,8       | 91,5       | 0,148              |
| Levofloxacin                     | 88,8                     | 89,3       | 87,4       | 89         | 0,933              |
| Sulphamethoxazole / trimethoprim | 46,8                     | 53,2       | 56,2       | 50,7       | 0,278              |
| Rifampicin                       | 19,2                     | 31,9       | 38,5       | 16,1       | <10 <sup>6</sup>   |
| Fosfomycin                       | 37,9                     | 70,5       | 45,3       | 99,4       | <10 <sup>6</sup>   |
| Colistin                         | 1                        | 0          | 0          | 0          | ----               |
| <b>Total</b>                     | <b>206</b>               | <b>140</b> | <b>181</b> | <b>184</b> |                    |

\*p significant at the 0.05 level

Table S2. Resistance phenotypes detected among 691 isolates.

|              | 2012        | 2013        | 2014        | 2015        | Total      | P-Value*           |
|--------------|-------------|-------------|-------------|-------------|------------|--------------------|
| Susceptible  | 21 (10.2%)  | 14 (10%)    | 11 (6.1%)   | 8 (4.9%)    | 54         | 0.15               |
| MDR          | 162 (78.6%) | 107 (76.4%) | 106 (58.6%) | 106 (64.6%) | 481        | < 10 <sup>-3</sup> |
| XDR          | 23 (11.2%)  | 19 (13.6%)  | 64 (35.4%)  | 50 (30.5%)  | 156        | < 10 <sup>-3</sup> |
| <b>Total</b> | <b>206</b>  | <b>140</b>  | <b>181</b>  | <b>164</b>  | <b>691</b> | <b>-</b>           |

MDR: Multidrug-Resistant, XDR: Extensively Drug-Resistant; \*p significant at the 0.05 level

Table S3. Correlations Between Antimicrobial Consumption (DDD/1000 patient-days) by year and annual resistance rate against broad spectrum antimicrobial over 15 years in the local setting.

| Antibiotic | Spearman's rho | 95% CI       | p-value (2-tailed) |
|------------|----------------|--------------|--------------------|
| CAZ        | -0,406         | -0,761_0,308 | 0,133              |
| IMP        | 0,778**        | 0,270_0,947  | 0,001              |
| AN         | 0,256          | -0,362_0,704 | 0,357              |
| GM         | -0,347         | -0,683_0,127 | 0,205              |
| LVX        | 0,147          | -0,642_0,959 | 0,665              |
| CIP        | 0,054          | -0,466_0,597 | 0,849              |
| FOS        | -0,558*        | -0,842_0,055 | 0,031              |
| SXT        | 0,041          | -0,549_0,598 | 0,883              |
| RA         | -0,264         | -0,861_0,632 | 0,432              |
| COL        | 0,304          | -0,165_0,815 | 0,270              |

\*\*Correlation is significant at the 0.01 level (2-tailed)