*Epidemiology and Infection*

Title: Epidemiology and Genotypic Characterization of Dissemination Patterns of Uropathogenic *Escherichia coli* in a Community

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Table S1. Age and Antimicrobial Resistance of *E. coli* isolates According to Sequence Types and Closely Related Groups.

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| Classification  (no. of strains) | Age, median  (range)a | Drug resistance %  (no. of strains)b,c | | **Tested drugsd** | | | | | | | | | | | | | | | | | | | | | | | | |
| **PCs** | | **C1** | **C2** | | | **C3** | **C4** | | **OC** | | **CM** | **Mon** | | **CaP** | | **AGs** | | **TCs** | | **ST** | **FQs** | | | **FOM** |
| All STs (166) | 64 (16-90) | 22.3 (37) | | 15.7 (26) | | 3.0 (5) | 2.4 (4) | | | 10.2 (17) | 1.2 (2) | | 0 | | 0 | 2.4 (4) | | 0 | | 4.8 (8) | | 1.8 (3) | | 5.4 (9) | 7.8 (13) | | | 0.6 (1) |
| non HIF STs (66) | 68.5 (16-90) | 27.3 (18) | | 16.7 (11) | | 0 | 1.5 (1) | | | 10.6 (7) | 0 | | 0 | | 0 | 1.5 (1) | | 0 | | 6.1 (4) | | 4.6 (3) | | 4.6 (3) | 3.0 (2) | | | 0 |
| SIF STs (37) | 70 (16-90) | 24.3 (9) | | 13.5 (5) | | 0 | 2.7 (1) | | | 10.8 (4) | 0 | | 0 | | 0 | 0 | | 0 | | 5.4 (2) | | 5.4 (2) | | 3.1 (3) | 2.7 (1) | | | 0 |
| MIF STs (29) | 64 (16-90) | 31.0 (9) | | 20.7 (6) | | 0 | 0 | | | 10.3 (3) | 0 | | 0 | | 0 | 3.5 (1) | | 0 | | 6.9 (2) | | 3.5 (1) | | 0 | 3.5 (1) | | | 0 |
| ST3510, CRG A (2) | 46 (22-70) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| HIF STs (100) | 62 (17-90) | 19.0 (19) | | 15.0 (15) | | 5.0 (5) | 3.0 (3) | | | 10.0 (10) | 2.0 (2) | | 0 | | 0 | 3.0 (3) | | 0 | | 4.0 (4) | | 0 | | 6.0 (6) | 11.0 (11) | | | 1.0 (1) |
| ST95 (48) | 58.5 (17-90) | 9.3 (4) | | 6.33 (3) | | 0 | 0 | | | 2.1 (1) | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 4.2 (2) | 2.1 (1) | | | 0 |
| CRG H (12) | 56 (20-90) | 8.3 (1) | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 8.3 (1) | 8.3 (1) | | | 0 |
| CRG D (5) | 55 (46-74) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG E (3) | 68 (64-77) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG F (3) | 18 (17-59) | 33.3 (1) | | 33.3 (1) | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG G (3) | 61 (47-84) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG C (2) | 27 (23-31) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG I (2) | 68.5 (64-73) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| ST131 (20) | 67 (20-85) | 65.0 (13) | | 55.0 (11) | | 20.0 (4) | 15.0 (3) | | | 40.0 (8) | 10.0 (2) | | 0 | | 0 | 10.0 (2) | | 0 | | 20.0 (4) | | 0 | | 20.0 (4) | 50.0 (10) | | | 5.0 (1) |
| CRG B (3) | 75 (70-82) | 100.0 (3) | | 33.3 (1) | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 33.3 (1) | 100 (3) | | | 33.3 (1) |
| ST73 (17) | 67 (34-84) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG J (4) | 62.5 (45-84) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| CRG K (30) | 66 (62-67) | 0 | | 0 | | 0 | 0 | | | 0 | 0 | | 0 | | 0 | 0 | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
| ST357 (15) | 71 (30-84) | 13.3 (2) | | 6.7 (1) | | 6.7 (1) | 0 | | | 6.7 (1) | 0 | | 0 | | 0 | 1 (6.7) | | 0 | | 0 | | 0 | | 0 | 0 | | | 0 |
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| Antimicrobial susceptibility of *E. coli* isolates was determined by the Microscan system using NBP3J, which included the following classes of antibacterial agents (the tested drugs within each): PCs, amino- and acylamino-penicillins (ampicillin, piperacillin); C1, 1st generation cephalosporins (cefazolin); C2, 2nd generation cephalosporins (cefotiam, cefaclor); C3, 3rd generation cephalosporins (cefotaxime, ceftazidime, cefoperazone, cefpodoxime); C4, 4th generation cephalosporins (cefepime, cefpirome, cefozoplan); OC, oxacephems (latamoxef, flomoxef); CM, cephamycins (cefmetazole); Mon, monobactams (aztreonam); CaP, carbapenems (imipenem, meropenem); AGs, aminoglycosides (gentamicin, tobramycin, amikacin, isepamicin): TCs, tetracyclines (minocycline); STs, folate path inhibitor (trimethoprim-sulfamethoxazole); FQs, fluoroquinolones (levofloxacin, ciprofloxacin); FOM, fosfomycin (fosfomycin). HIF indicates high-isolation-frequency; MIF, middle-isolation-frequency; SIF, single-isolation-frequency; CRG, closely related group. a For the comparison between Non-HIF STs and ST95; p = 0.0135, Wilcoxon's signed- ranks test. b Strains that defined resistant to any of tested drugs were regarded as to have drug resistance. c The drug resistant rate of ST95 and ST73 (ST131) are significantly low (high) compared to that of Non-HIF STs, p = 0.0153 and 0.0094 (0.0033), respectively. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Table S2. Chi-squared goodness of fit test for actual and theoretical frequencies of the isolates per week according to Poisson distribution. | | | | | | | | |
| Classification (No. of strains) | mean frequency per week | No. of isolates | Actual frequency | Probability for Poisson Distribution\* | Theoretical frequency | Value of Chi square | Probability |
| All (166) | 3.132 | 0 | 1 | 0.0436 | 2.312 | 6.124 | 0.523 |
| 1 | 5 | 0.1367 | 7.242 |
| 2 | 17 | 0.2140 | 11.342 |
| 3 | 12 | 0.2234 | 11.841 |
| 4 | 6 | 0.1749 | 9.271 |
| 5 | 8 | 0.1096 | 5.808 |
| 6 | 2 | 0.0572 | 3.032 |
| 7 | 1 | 0.0256 | 1.356 |
| 8 | 1 | 0.0100 | 0.531 |
| 9 | 0 | 0.0035 | 0.185 |
| 10 | 0 | 0.0011 | 0.058 |
| HIF (100) | 1.887 | 0 | 10 | 0.1515 | 8.031 | 5.403 | 0.369 |
| 1 | 11 | 0.2859 | 15.154 |
| 2 | 15 | 0.2698 | 14.298 |
| 3 | 13 | 0.1697 | 8.993 |
| 4 | 1 | 0.0801 | 4.243 |
| 5 | 2 | 0.0302 | 1.601 |
| 6 | 1 | 0.0095 | 0.504 |
| MIF (29) | 0.547 | 0 | 30 | 0.5787 | 30.670 | 0.452 | 0.798 |
| 1 | 17 | 0.3165 | 16.777 |
| 2 | 6 | 0.0866 | 4.588 |
| SIF (37) | 0.698 | 0 | 25 | 0.4976 | 26.372 | 0.923 | 0.820 |
| 1 | 21 | 0.3473 | 18.407 |
| 2 | 5 | 0.1212 | 6.424 |
| 3 | 2 | 0.0282 | 1.495 |
| ST95 (48) | 0.906 | 0 | 22 | 0.4041 | 21.419 | 1.694 | 0.638 |
| 1 | 17 | 0.3661 | 19.406 |
| 2 | 11 | 0.1659 | 8.791 |
| 3 | 3 | 0.0501 | 2.655 |
| ST131 (20) | 0.377 | 0 | 38 | 0.6859 | 36.354 | 2.081 | 0.556 |
| 1 | 11 | 0.2586 | 13.705 |
| 2 | 3 | 0.0487 | 2.583 |
| 3 | 1 | 0.0061 | 0.325 |
| ST73 (17) | 0.32 | 0 | 40 | 0.7261 | 38.486 | 3.463 | 0.326 |
| 1 | 10 | 0.2324 | 12.315 |
| 2 | 2 | 0.0372 | 1.970 |
| 3 | 1 | 0.0040 | 0.210 |
| ST357 (15) | 0.283 | 0 | 40 | 0.7535 | 39.937 | 0.109 | 0.947 |
| 1 | 11 | 0.2132 | 11.302 |
| 2 | 2 | 0.0302 | 1.599 |
| \*, probabilities for each value of the variables were calculated using the Poisson formula of e-µµr/r!, where µ is the mean of frequencies and r is the number of events. HIF indicates high-isolation-frequency; MIF, middle-isolation-frequency; SIF, single-isolation-frequency. | | | | | | | |