**Appendix Table 1.** Patient demographic and clinical characteristics, stratified by type of infection

|  |  |  |
| --- | --- | --- |
|  | **Cellulitis** | **Cutaneous abscess** |
|  | **Diabetes mellitus****N = 112** | **No diabetes mellitus****N = 335** | **P** | **Diabetes mellitus****N = 55** | **No diabetes mellitus****N = 268** | **P** |
| Age, median (IQR) | 58 (51-68) | 52 (39-64) | 0.001 | 53 (45-58) | 44 (34-52) | <0.001 |
| Male | 67 (60) | 217 (65) | 0.35 | 35 (64) | 188 (70) | 0.34 |
| Injection Drug Use | 2 (2) | 20 (6) | 0.08 | 7 (13) | 97 (36) | <0.001 |
| Alcohol abuse or dependence | 10 (9) | 49 (15) | 0.12 | 5 (9) | 37 (14) | 0.34 |
| Cirrhosis | 10 (9) | 14 (4) | 0.05 | 1 (2) | 3 (1) | 0.53 |
| HIV infection | 0 | 10 (3) | 0.07 | 0 | 19 (7) | 0.05 |
| Dialysis dependence  | 3 (3) | 5 (1) | 0.42 | 1 (2) | 0 | 0.17 |
| Peripheral arterial disease | 4 (4) | 5 (1) | 0.24 | 0 | 0 | - |
| Saphenous vein harvest | 6 (5) | 11 (3) | 0.39 | 1 (2) | 0 | 0.17 |
| Prior skin infection | 42 (38) | 62 (19) | <0.001 | 14 (25) | 63 (24) | 0.73 |
| Prior MRSA infection or colonization | 15 (13) | 24 (7) | 0.05 | 5 (9) | 26 (10) | 0.89 |
| Anatomical location |  |  |  |  |  |  |
|  Lower extremity | 70 (63) | 161 (48) | 0.008 | 10 (18) | 39 (15) | 0.49 |
|  Upper extremity | 4 (4) | 37 (11) | 0.02 | 2 (4) | 42 (16) | 0.02 |
|  Head and neck | 7 (6) | 22 (7) | 0.91 | 7 (13) | 16 (6) | 0.09 |
|  Buttock or inguinal | 1 (1) | 8 (2) | 0.46 | 7 (13) | 27 (10) | 0.56 |
|  Chest, abdomen, back, or axilla | 2 (2) | 7 (2) | 1.00 | 7 (13) | 18 (7) | 0.16 |
|  Multiple distinct sites  | 5 (4) | 13 (4) | 0.78 | 2 (4) | 21 (8) | 0.39 |
| Medical primary service | 100 (89) | 278 (83) | 0.11 | 39 (71) | 117 (44) | <0.001 |
| Consultation requested | 64 (57) | 183 (55) | 0.64 | 35 (64) | 111 (41) | 0.003 |
|  Surgery | 32 (29) | 77 (23) | 0.23 | 26 (47) | 75 (28) | 0.005 |
|  Internal Medicine | 14 (13) | 33 (10) | 0.43 | 4 (7) | 14 (5) | 0.52 |
|  Infectious Diseases | 29 (26) | 94 (28) | 0.66 | 12 (22) | 55 (21) | 0.83 |
| Failed initial outpatient antibiotic therapy | 33 (29) | 104 (31) | 0.75 | 19 (35) | 82 (31) | 0.57 |
| Fever (temperature ≥38.0°C) | 14 (13) | 64 (19) | 0.11 | 6 (11) | 38 (14) | 0.52 |
| Leukocytosis (WBC >10,000 cells/mm3) | 50 (45) | 147 (44) | 0.89 | 28 (51) | 164 (61) | 0.16 |

Data presented as n (%) unless otherwise noted. IQR, interquartile range.

**Appendix Table 2.** Aerobicgram-negative organisms isolated a,b

|  |  |  |
| --- | --- | --- |
|  | **Diabetes mellitus****N = 5** | **No diabetes mellitus****N = 35** |
| *Escherichia coli* | 0 | 2 (6) |
| Klebsiella species | 0 | 8 (23) |
| *Proteus mirabilis* | 0 | 3 (9) |
| *Citrobacter freundii* | 0 | 1 (3) |
| Lactose-fermenting gram-negative bacilli, not otherwise specified | 2 (40) | 3 (9) |
| *Pseudomonas aeruginosa* | 0 | 4 (11) |
| *Acinetobacter baumanii* | 0 | 2 (6) |
| Enterobacter species | 0 | 2 (6) |
| Non-lactose-fermenting gram-negative bacilli, not otherwise specified | 1 (20) | 3 (9) |
| *Pasturella multocida* | 1 (20) | 1 (3) |
| *Aeromonas hydrophila* | 0 | 1 (3) |
| Gram-negative bacilli, not otherwise specified | 1 (20) | 1 (3) |
| Haemophilus species | 0 | 3 (9) |
| Gram-negative coccobacilli, not otherwise specified | 0 | 1 (3) |

a More than one organism may have been isolated from the same culture

b In the diabetic cohort, 3 of the 5 gram-negative organisms were isolated from wound cultures

**Appendix Table 3.** Antibiotics prescribed during the hospitalization and at discharge, stratified by type of infection

|  |  |  |
| --- | --- | --- |
|  | **Cellulitis** |  **Cutaneous abscess** |
|  | **Diabetes mellitus****N = 112** | **No diabetes mellitus****N = 335** | **P** | **Diabetes mellitus****N = 55** | **No diabetes mellitus****N = 268** | **P** |
| Individual antibiotics prescribed during the inpatient stay a, b |  |  |  |  |  |  |
|  Vancomycin | 94 (84) | 273 (81) | 0.56 | 48 (87) | 231 (86) | 0.83 |
|  Clindamycin | 17 (15) | 77 (23) | 0.08 | 10 (18) | 54 (20) | 0.74 |
|  Parenteral β-lactam/ β-lactamase inhibitor | 41 (37) | 91 (27) | 0.06 | 29 (53) | 109 (41) | 0.10 |
|  2nd generation or higher cephalosporin | 9 (8) | 40 (12) | 0.25 | 4 (7) | 11 (4) | 0.30 |
|  Cefazolin | 10 (9) | 50 (15) | 0.11 | 7 (13) | 41 (15) | 0.63 |
|  Carbapenem | 7 (6) | 25 (7) | 0.67 | 2 (4) | 9 (3) | 1.00 |
|  Fluoroquinolone | 18 (16) | 33 (10) | 0.07 | 2 (4) | 20 (7) | 0.39 |
|  Daptomycin | 6 (5) | 19 (6) | 0.90 | 2 (4) | 5 (2) | 0.34 |
|  Linezolid | 2 (2) | 6 (2) | 1.00 | 0 | 2 (1) | 1.00 |
|  Trimethoprim-sulfamethoxazole | 8 (7) | 17 (5) | 0.41 | 4 (7) | 13 (5) | 0.50 |
|  Doxycycline | 12 (11) | 32 (10) | 0.72 | 3 (5) | 12 (5) | 0.73 |
|  Cephalexin  | 6 (5) | 18 (5) | 0.99 | 1 (2) | 4 (1) | 1.00 |
|  Amoxicillin-clavulanate | 6 (5) | 10 (3) | 0.25 | 5 (9) | 14 (5) | 0.34 |
|  Other β-lactam | 4 (4) | 19 (6) | 0.38 | 2 (4) | 11 (4) | 1.00 |
|  |  |  |  |  |  |  |
| *Antibiotics prescribed at hospital discharge* b | 109 (97) | 321 (96) | 0.58 | 54 (98) | 259 (97) | 1.00 |
|  Clindamycin | 12 (11) | 51 (15) | 0.24 | 8 (15) | 44 (16) | 0.73 |
|  Trimethoprim-sulfamethoxazole | 32 (29) | 102 (30) | 0.71 | 20 (36) | 113 (42) | 0.43 |
|  Doxycycline | 20 (18) | 56 (17) | 0.78 | 12 (22) | 35 (13) | 0.09 |
|  Cephalexin | 10 (9) | 32 (10) | 0.84 | 2 (4) | 14 (5) | 1.00 |
|  Amoxicillin-clavulanate | 15 (13) | 44 (13) | 0.94 | 9 (16) | 38 (14) | 0.68 |
|  Fluoroquinolone | 15 (13) | 19 (6) | 0.008 | 3 (5) | 13 (5) | 0.74 |
|  Linezolid | 8 (7) | 16 (5) | 0.34 | 0 | 3 (1) | 1.00 |
|  Other oral β-lactam | 2 (2) | 15 (4) | 0.26 | 1 (2) | 13 (5) | 0.48 |
|  Other oral antibiotic | 1 (1) | 0 | 0.25 | 0 | 2 (1) | 1.00 |
|  Vancomycin | 6 (5) | 11 (3) | 0.39 | 2 (4) | 4 (1) | 0.27 |
|  Daptomycin | 4 (4) | 9 (3) | 0.75 | 1 (2) | 1 (0.4) | 0.31 |
|  Other parenteral antibiotic  | 2 (2) | 9 (3) | 0.74 | 2 (4) | 2 (1) | 0.14 |
|  Combination antibiotic regimen | 19 (17) | 45 (13) | 0.36 | 6 (11) | 24 (9) | 0.65 |
|  Parenteral antibiotics | 12 (11) | 27 (8) | 0.39 | 4 (7) | 7 (3) | 0.10 |
|  |  |  |  |  |  |  |
| Antibiotic with broad gram-negative activity initiated in emergency department or urgent care | 32/96 (33) | 95/304 (31) | 0.70 | 14/53 (26) | 79/257 (31) | .53 |
| Exposed to any antibiotic with broad gram-negative activity c | 67 (60) | 175 (53) | 0.20 | 34 (64) | 136 (52) | 0.11 |
| Exposed to any antibiotic with anti-pseudomonal activity c | 42 (38) | 85 (26) | 0.02 | 20 (38) | 64 (25) | 0.05 |
| Exposed to at least 2 calendar days of antibiotics with broad gram-negative activity c | 60 (54) | 146 (45) | 0.08 | 29 (55) | 113 (43) | 0.13 |
|  |  |  |  |  |  |  |
| *Treatment duration* d |  |  |  |  |  |  |
|  Total duration of therapy, median days (IQR)  | 13 (10-15) | 12 (10-14) | 0.23 | 13 (11-16) | 12 (10-15) | 0.15 |
|  Duration of inpatient therapy, median days (IQR) | 4 (3-6) | 4 (3-5) | 0.08 | 4 (3-6) | 4 (3-5) | 0.29 |
|  Duration of therapy after discharge, median days (IQR) | 8 (7-10) | 7 (7-10) | 0.71 | 10 (7-10) | 8 (7-10) | 0.48 |

Data presented as n (%) unless otherwise noted. IQR, interquartile range.

a At least one dose administered; includes antibiotics initiated by the emergency department, urgent care, or admitting clinic.

b Patients could receive more than one antibiotic.

c Analysis limited to 752 patients (111 diabetics with cellulitis and 328 non-diabetics with cellulitis, 53 diabetics with abscess, 260 non-diabetics with abscess) where the antibiotic prescribed at discharge was known

d Analysis limited to 709 patients with a known duration of therapy (108 diabetics with cellulitis, 306 non-diabetics with cellulitis, 49 diabetics with abscess, 246 non-diabetics with abscess).

**Appendix Table 4.** Final multivariable logistic regression model of factors associated with exposure to at least two calendar days of antibiotics with broad gram-negative activity

|  |  |  |
| --- | --- | --- |
| **Variable** | **Odds Ratio** **(95% confidence interval)** | ***P*** |
| Diabetes mellitus | 1.66 (1.15 – 2.40) | 0.007 |
| Gram-negative microorganism cultured | 4.29 (1.84 – 10.01) | <0.001 |
| Infectious Diseases consultation | 1.58 (1.08 – 2.31) | 0.02 |
| Fever | 1.59 (1.05 – 2.40) | 0.03 |
| Non-medical admitting service | 1.50 (1.04 – 2.18) | 0.04 |
| Prior MRSA infection or colonization | 0.45 (0.26 – 0.79) | 0.006 |
| HIV infection | 0.31 (0.12 – 0.81) | 0.02 |
| Lower extremity involvement | 1.42 (0.99 – 2.04) | 0.054 |
| Cutaneous abscess (vs. cellulitis) | 0.92 (0.65 – 1.31) | 0.65 |
| Multiple distinct sites of infection | 0.48 (0.23 – 1.00) | 0.051 |
| Injection drug use  | 1.30 (0.83 – 2.03) | 0.26 |
| Saphenous vein harvest | 1.04 (0.39 – 2.81) | 0.94 |
| Male gender | 1.29 (0.94 – 1.78) | 0.11 |
| Age (per 10-year increase) | 1.00 (0.90 – 1.11) | 0.98 |