A Natural Perspective on Sustainability

Human Health and Biodiversity

Breakfast Seminar
FDU Institute for Sustainable Enterprise
23 January 2009
Table 1. Bacterial Isolates from Purulent Skin and Soft-Tissue Infections in 11 U.S. Emergency Departments.

<table>
<thead>
<tr>
<th>Site</th>
<th>No. of Patients Enrolled (N=422)</th>
<th>MRSA (N=249)†</th>
<th>MSSA (N=71)</th>
<th>Other Bacteria (N=64)‡</th>
<th>No Bacterial Growth (N=38)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albuquerque</td>
<td>42</td>
<td>25 (60)</td>
<td>10 (24)</td>
<td>3 (7)</td>
<td>4 (10)</td>
</tr>
<tr>
<td>Atlanta</td>
<td>32</td>
<td>23 (72)</td>
<td>4 (12)</td>
<td>3 (9)</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Charlotte, N.C.</td>
<td>25</td>
<td>17 (68)</td>
<td>0</td>
<td>4 (16)</td>
<td>4 (16)</td>
</tr>
<tr>
<td>Kansas City, Mo.</td>
<td>58</td>
<td>43 (74)</td>
<td>6 (10)</td>
<td>4 (7)</td>
<td>5 (9)</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>47</td>
<td>24 (51)</td>
<td>6 (13)</td>
<td>8 (17)</td>
<td>9 (19)</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>28</td>
<td>11 (39)</td>
<td>4 (14)</td>
<td>9 (32)</td>
<td>4 (14)</td>
</tr>
<tr>
<td>New Orleans</td>
<td>69</td>
<td>46 (67)</td>
<td>11 (16)</td>
<td>9 (13)</td>
<td>3 (4)</td>
</tr>
<tr>
<td>New York</td>
<td>20</td>
<td>3 (15)</td>
<td>8 (40)</td>
<td>5 (25)</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>58</td>
<td>32 (55)</td>
<td>12 (21)</td>
<td>12 (21)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Phoenix, Ariz.</td>
<td>30</td>
<td>18 (60)</td>
<td>8 (27)</td>
<td>4 (13)</td>
<td>0</td>
</tr>
<tr>
<td>Portland, Oreg.</td>
<td>13</td>
<td>7 (54)</td>
<td>2 (15)</td>
<td>3 (23)</td>
<td>1 (8)</td>
</tr>
</tbody>
</table>

* A total of 31 cultures, including 10 cultures from which MRSA was isolated, were polymicrobial. Because of rounding, percentages may not total 100. MSSA denotes methicillin-resistant Staphylococcus aureus.
† P<0.001 for the test for homogeneity of MRSA prevalence across sites.
‡ Other bacteria isolated were as follows: MSSA (17 percent), streptococcus species (7 percent), coagulase-negative staphylococci (3 percent), and Proteus mirabilis (1 percent).
Vancomycin Use
All new chemical entities, 01/1981-06/2006, by source ($N = 1184$).
Intrathecal Ziconotide in the Treatment of Refractory Pain in Patients With Cancer or AIDS
A Randomized Controlled Trial

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Mark S. Wallace, MD
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Context Ziconotide (formerly SNX-111) selectively blocks N-type voltage-sensitive calcium channels and may be effective in patients with pain that is refractory to opioid therapy or those with intolerable opioid-related adverse effects.

Objective To assess the safety and efficacy of intrathecal ziconotide in patients with pain that is refractory to conventional treatment.

Design, Setting, and Patients Double-blind, placebo-controlled, randomized trial conducted from March 12, 1996, to July 11, 1998, at 32 study centers in the United States, Australia, and the Netherlands. Patients were 111 individuals ages 24 to 85 years with cancer or AIDS and a mean Visual Analog Scale of Pain Intensity (VASPI) score of 50 mm or greater. Patients were randomly assigned in a 2:1 ratio to receive ziconotide or placebo treatment.

Interventions Intrathecal ziconotide was titrated over 5 to 6 days, followed by a 5-day maintenance phase for responders and crossover of nonresponders to the opposite treatment group.

Main Outcome Measure Mean percentage change in VASPI score from baseline to the end of the initial titration period.

Results Of the evaluable population, 67 (98.5%) of 68 patients receiving ziconotide and 38 (95%) of 40 patients receiving placebo were taking opioids at baseline (median morphine equivalent dosage of 300 mg/d for the ziconotide group and 600 mg/d for the placebo group).
43 Guilders

Rijksmuseum, Amsterdam

273 Guilders

C. cedonulli

Science 249: 257–263, 1990
SARS-CoV Infection in a Restaurant from Palm Civet

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Honglin Chen,§1 Han Zheng,†‡† Yanmei Xu,†‡ Enmin Zhang,†‡ Hongxia Wang,†‡ Jingrong Ye,†‡
Guichang Li,† Machao Li,† Zhigang Cui,†‡ Yu-Fei Liu,* Rong-Tong Guo,* Xiao-Ning Liu,* Liu-Hua
Zhan,* Duan-Hua Zhou,* Ailan Zhao,†‡ Rong Hai,†‡ Dongzhen Yu,*† Yi Guan,§ and Jianguo Xu†‡

Epidemiologic and Etiologic Findings of the Restaurant

The restaurant is in a 2-story building in downtown Guangzhou. Eight animal cages containing 6 palm civets (*Paguma larvata*) were stacked (2 cages per stack) at the front door of the restaurant. The cages were approximately 1 m from the sidewalk and 2 m from the first row of dining tables on the ground floor of the restaurant. Pedestrians walking in the street and customers dining on the ground floor could easily see the animals in the cages.
AIDS as a Zoonosis: Scientific and Public Health Implications

Beatrice H. Hahn, George M. Shaw, Kevin M. De Cock, Paul M. Sharp

Evidence of simian immunodeficiency virus (SIV) infection has been reported for 26 different species of African nonhuman primates. Two of these viruses, SIVcpz from chimpanzees and SIVsm from sooty mangabeys, are the cause of acquired immunodeficiency syndrome (AIDS) in humans. Together, they have been transmitted to humans on at least seven occasions. The implications of human infection by a diverse set of SIVs and of exposure to a plethora of additional human immunodeficiency virus–related viruses are discussed.

Phylogeny of Primate Lentiviruses
Humans are not the natural hosts of either HIV-1 or HIV-2. Instead, these viruses have entered the human population as a result of zoonotic, or cross-species, transmission. We now know of at least 18 distinct primate lentiviruses that naturally infect different African primates (Table 1). Although these simian lentiviruses are...
Disappearing Bees

States reporting honeybee colony collapse disorder, as of March 2007.

Source: Bee Alert Technology Inc.