Think Rat Bite Fever in Those With Joint Pain, Rash

BY DOUG BRUNK
San Diego Bureau

LAS VEGAS — If a child presents to your office with fever, chills, muscle pain, joint swelling/pain, and a rash and has a pet rat, consider rat bite fever, Dr. Jay M. Lieberman advised at a meeting sponsored by the American Academy of Pediatrics’ California Chapters 1, 2, 3, and 4 and the AAPC.

In the summer of 2002, one of his colleagues at Miller Children’s Hospital in Long Beach, Calif., consulted on a 6-year-old boy who was admitted with a 3-day history of fever as high as 103 and petechial and purpuric lesions on his feet. He had initially complained of left ankle pain and refusal to walk and then had diffuse pain of the left knee, elbow, and wrist.

The boy’s lab tests were normal except for a low blood platelet count (146,000/mcl of blood). Liver function tests also were normal. The family was from Pennsylvania and had been living in southern California for 2 months. The patient had a pet rat that the family had acquired several weeks before the onset of his symptoms.

“This boy liked to kiss his rat,” said Dr. Lieberman, chief of pediatric infectious diseases at the hospital.

The history of the pet rat prompted Dr. Lieberman’s colleague to review the medical literature on rat bite fever, and it became apparent that the boy had a classic presentation of the disease. Rat bite fever is caused by Streptobacillus moniliformis, a bacterium that is found in the normal oral flora of rats and can be excreted in rat urine.

Humans can become infected with S. moniliformis after a bite or scratch from the infected rat, from handling or ingesting food or water contaminated with rat excrement.

The incubation period ranges from 2 to 10 days and patients present with a flu-like illness, including an abrupt onset of fever, chills, headache, and myalgia. A petechial and purpuric lesions appeared on the foot of this 6-year-old boy who liked to kiss his pet rat.

Petechial and purpuric lesions appeared on the foot of this 6-year-old boy who liked to kiss his pet rat.

Macrolide Resistance Is Common Cause of Breakthrough Bacteremia

SAN FRANCISCO — Drug resistance was a common cause of treatment failure in 26 patients with community-acquired pneumonia who developed bacteremia while being treated with macrolide antibiotics, Dr. Gavyn Bayan Grant said at the annual Interscience Conference on Antimicrobial Agents and Chemotherapy.

Of the 26 patients who developed bacteremia while on erythromycin, clarithromycin, or azithromycin therapy, 21 (81%) had resistant organisms, compared with 15 (44%) of 34 patients who developed bacteremia after recent use of one of the macrolides (defined as 16–90 days before the bacteremia diagnosis) and 14% of 721 patients who had not been taking any antibiotics and developed bacteremia.

Macrolide antibiotics are standard therapy for outpatient treatment of pneumonia, and evidence that significant macrolide resistance occurs has been inconclusive, said Dr. Grant of the Centers for Disease Control and Prevention, Atlanta. The current findings provide further evidence that resistance can lead to treatment failure with macrolides, which may inform clinical decisions to change antibiotics in some patients, he said at the meeting sponsored by the American Society for Microbiology.

Dr. Grant has no association with the companies that make macrolides.

Rash may develop 2-4 days after the onset of fever. The rash “is usually maculopapular, predomi-

nantly involves the palms and soles, and may evolve into petechia, purpura, and vesicles,” said Dr. Lieberman, who also is a professor of pediatricians at the University of California, Irvine.

Penicillin G is the treatment of choice, and the boy improved rapidly once on the regimen. Un-

treated, the infection may have a relapsing course for 3 weeks or more with a case fatality rate as high as 10%.

Dr. Lieberman said the case underscores the im-

portance of asking about pets in every febrile pa-

tient and considering the possibility of rat bite fever in acutely ill patients with rat exposure.

According to the text books, “children inhab-

iting crowded urban dwellings or rural areas in-

fested with wild rats” are at risk. Half or more of

wild rats carry the organism in their nasopharynx,

Dr. Lieberman explained.

According to the Centers for Disease Control and Pre-

vention, two people died from rat bite fever in 2003

(MMWR 2003;53:1198-202). One of the victims, a previ-

ously healthy 19-year-old woman in Washington, was

pronounced dead upon arrival at a hospital emergency de-

partment after being ill for 3 days. She had lived in an

apartment with nine pet rats, and S. moniliformis was iden-

tified from the liver and kidney on autopsy.

—Sherry Boschert

Macrolungin as Effective as Other Antifungals for Candida Infections

BY TIMOTHY P. KIRN
Sacramento Bureau

SAN FRANCISCO — Two head-to-head comparison trials of micafungin found that it was as effective as older antifungals in treat-

ing invasive candidiasis, according to presen-

tations at the annual Interscience Conference on Antimicrobial Agents and Chemotherapy.

Micafungin, a member of the class known as echinocandins, was approved in the Unit-

ed States in 2005 for treatment of esophageal candidiasis and for prophylactic treatment of patients undergoing bone marrow trans-

plantation.

Intravenous micafungin at two different doses produced cure rates similar to those with caspofungin in an international trial with 593 adults who had candidemia or invasive candidiasis, said Dr. Robert Betts, a professor of medicine at the University of Rochester, New York.

The cure rates overall were 74% for the lower dose of micafungin (100 mg/day), 70% for the more typical dose (150 mg/day), and 71% for caspofungin, which was given as a 70-mg loading dose on the first day fol-

owed by 50 mg/day.

There were no significant differences be-

tween the treatments in adverse events, treat-

ment discontinuation, or relapse, Dr. Betts said.

The only significant difference was in the treatment of patients with invasive candidia-

sis, for whom the lower dose of micafungin was more effective than the higher dose, with a cure rate of 79%, compared with 55% by con-

trol. By comparison, the caspofungin cure rate was 65% for invasive candidiasis.

Some nonsignificant differences were found for species of Candida other than Candida albicans: Caspofungin performed slightly better against C. tropicalis (75% success vs. 68%), and micafungin performed better against C. glabrata (86% vs. 67%) and C. parapsilosis (77% vs. 64%). Those results may deserve further in-

vestigation, Dr. Betts said.

“Micafungin at 100 mg a day appears to be the optimal dose in the treatment of invasive candidiasis or candidemia,” he said.

In the second study, micafungin was com-

pared with liposomal amphotericin B in 98 children with Candida infection, 91% of whom had candidemia.

Micafungin had an overall success rate of 72%, compared with 76% for liposomal am-

photericin B. In patients with neutropenia, micafungin was effective in 85%, compared with 77% for amphotericin B. Neither of these differences was statistically significant, said Dr. Antonio Arrieta, an infectious disease spe-

cialist at Children’s Hospital Orange County, Orange, Calif.

The majority of patients had a Candida in-

fection other than C. alba: the most com-

mon other species was C. parapsilosis. Mic-

afungin treatment was successful in 80% of patients with C. parapsilosis, compared with 60% for liposomal amphotericin B, a differ-

ence that was not statistically significant.

No differences in treatment were found be-

tween children less than 2 years of age and older children, but the differences observed were mainly in the adverse effects, Dr. Arrieta said. Serious adverse events occurred in 4% of the patients treated with micafungin and 9% of the patients treated with liposomal am-

photericin B. “I think the safety of [micafun-

gin] has changed my practice,” Dr. Ar-

rieta said in an interview at the meeting.

Both studies were sponsored by the manu-

facturer of micafungin, Astellas Pharma.