CLINICAL CAPSULES

Resistance to Fluoroquinolones

Fluoroquinolone resistance was an independent risk factor for death in a study of patients with nosocomial Escherichia coli and Klebsiella pneumoniae infections.

Sixteen (13%) of 123 patients with resistant infection in the retrospective cohort study died, compared with 4 (6%) of 70 patients with susceptible infection. After multivariate analysis, fluoroquinolone (FQ)-resistant infection remained independently and significantly associated with mortality (odds ratio 4.41), reported Ebbing Lautenbach, M.D., of the University of Pennsylvania, Philadelphia, and his colleagues. However, FQ-resistant patients were significantly less likely to be treated with an antimicrobial active against the infection in the first 24-48 hours after samples were obtained for culture. After adjusting for time to effective therapy, the association between FQ resistance and mortality lost significance (adjusted odds ratio 2.53), the investigators noted (Clin. Infect. Dis. 2005;41:923-9).

The findings underscore the need for early, appropriate antimicrobial therapy in patients with FQ-resistant infections, but also highlight the problem of such resistance and the need for ongoing efforts to halt its increasing prevalence, they concluded.

Emphysematous Pyelonephritis

Host and bacterial virulence factors each play a role in the pathogenesis of emphysematous pyelonephritis, a study suggests.

Forty-seven patients with the rare but deadly gas-forming infection of the kidney known as emphysematous pyelonephritis (EPN) were compared with 79 patients with non-EPN kidney disease in terms of virulence factors. Diabetes with poor glycemic control was the only host factor independently associated with EPN (odds ratio 4.9), but urinary tract obstruction with impaired renal circulation also was more prevalent in EPN patients (32% vs. 11%), reported Chin-Chung Tseng, M.D., and colleagues at the National Cheng Kung University, Tainan, Taiwan (Am. J. Kidney Dis. 2005;46:432-9).

Furthermore, in causative strains of Escherichia coli (the causative agent in 16 of 47 of the EPN cases, and in 60%-70% of cases in general), the papG II adhesin gene was identified significantly less often than in non-EPN E. coli strains (odds ratio 0.2), and the genetic determinant of uropathogenic-specific protein was identified more often in causative strains than in non-EPN E. coli strains, the investigators found.

Cartilage-Piercing Infections

An outbreak of severe infections following upper ear piercings has been linked to contaminated antiseptic solution.

Fifteen people became infected with Pseudomonas aeruginosa following upper ear piercing at a single body-art parlor. Nine of the patients required hospitalization and treatment with intravenous antibiotics and surgery, reported Caroline G. Fisher of the Monroe County Department of Public Health in Rochester, N.Y., and her colleagues.

A case-control study involving the 15 patients and 61 controls showed that compared with noncartilage piercings, cartilage piercing at the helix, combined with the use of an antiseptic solution provided by the parlor, was associated with a 1,000fold increase in infection risk (Am. J. Prev. Med. 2005;29:204-9).

It was determined that the solution, which is not effective against Pseudomonas, was contaminated during mixing. The findings underscore the risks associated with cartilage piercing and the need for safe and appropriate procedures.

Chemotherapy-Related Infections

Levofloxacin prevented infections following chemotherapy for cancer in two recent studies, but concerns remain about emerging resistance.

In one randomized study of 760 patients with chemotherapy-induced neutropenia, Giampaolo Bucaneve, M.D., of Hospital Policlinico Monteluce, Perugia, Italy, and his colleagues found that levofloxacin reduced the risk of fever by 20%, lowered documented infections by 17%, and reduced bacteremias by up to 16% (N. Engl. J. Med. 2005;353:977-87).

In another randomized study of 1,565 chemotherapy patients, Michael Cullen, M.D., of the University of Birmingham (England) and colleagues found that levofloxacin reduced the incidence of fever, compared with placebo: 4% of treatment patients vs. 8% on placebo had at least one fever during the first chemotherapy course. Levofloxacin reduced infection, severe infection, and hospitalization for infection rates (N. Engl. J. $\mathrm{\bar{M}ed.}\ 2005;353:988-98).$

In an editorial, Lindsey R. Baden, M.D., wrote that patients at greatest risk, the period of increased risk, and the likelihood of the emergence of resistant organisms need to be defined. Improvement in risk stratification will minimize unnecessary use of antimicrobials and preserve the benefits described in the two studies (N. Engl. J. Med. 2005;353:1052-4).

—Sharon Worcester

Body System/ Adverse Event	MIRAPEX N=388	Placebo N=235	Body System/ Adverse Event	MIRAPEX N=388	Placebo N=235
Body as a Whole Asthenia General edema Malaise Reaction unevaluable Fever	14 5 2 2 1	12 3 1 1 0	Nervous System Dizziness Somnolence Insomnia Hallucinations Confusion	25 22 17 9 4	24 9 12 3
Digestive System Nausea Constipation Anorexia Dysphagia Metabolic & Nutritional S	28 14 4 2	18 6 2 0	Amnesia Hypesthesia Dystonia Akathisia Thinking abnormalities Decreased libido Myoclonus	4 3 2 2 2 1 1	2 1 1 0 0 0
Peripheral edema Decreased weight	5 2	4 0	Special Senses Vision abnormalities	3	0
			Urogenital System Impotence	2	1

ment-Emergent Adverse-Event* Incidence in Double-Blind, Placebo-Controlled zed Parkinson's Disease (Events ≥1% of Patients Treated With MIRAPEX and re Frequent Than in the Placebo Group)

Body System/ Adverse Event	MIRAPEX ¹ N=260	Placebo ¹ N=264	Body System/ Adverse Event	MIRAPEX ¹ N=260	Placebo ¹ N=264
Body as a Whole Accidental injury Asthenia General edema Chest pain Malaise	17 10 4 3 3	15 8 3 2 2	Nenvous System (cont) Somnolence Dystoria Gait abnormalities Hypertonia Armesia Akathisia Thinking abnormalities Paranold reaction Delusions Sleep disorders	9 8 7 7 6	6 7 5 6 4
Cardiovascular System Postural hypotension	53	49		3	2 2
Digestive System Constipation Dry mouth	10 7	9		2 1 1	0 0 0
Metabolic & Nutritional Sys Peripheral edema Increased creatine PK	stem 2 1	1 0	Respiratory System Dyspnea Rhinitis Pneumonia	4 3 2	3 1 0
Musculoskeletal System Arthritis Twitching	3 2	1	Skin & Appendages Skin disorders	2	1
Bursitis Myasthenia	2 2 1	0	Special Senses Accommodation abnormalities	4	2
Nervous System Dyskinesia	47	31 26	Vision abnormalities Diplopia	3 1	2 1 0
Extrapyramidal syndron Insomnia Dizziness Hallucinations Dream abnormalities Confusion	27 26 17 11 10	26 22 25 4 10 7	Urogenital System Urinary frequency Urinary tract infection Urinary incontinence	6 4 2	3 3 1

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Pages 62a—62b₺