Biomedical Update:

Infections again linked to Tourette syndrome

A new report adds to findings strongly implicating infectious diseases as a factor in Tourette syndrome and other psychiatric illnesses.

Several years ago, Susan Swedo and colleagues at the National Institute of Mental Health reported a strong link between Tourette syndrome and chronic streptococcal infection in susceptible children. Since then, researchers have tentatively linked strep infections to some cases of attention deficit hyperactivity disorder, obsessive-compulsive disorder, and possibly even autism (see ARRI 13/1).

Additionally, in 1998, Michael Riedel et al. reported on a case of Tourette syndrome stemming from Lyme disease, a rickettsial infection. When their nine-year-old subject received treatment with ceftriaxone, Riedel and colleagues reported, "The tics resolved completely [and] his social skills returned to normal."

The most recent report, by Norbert Muller and colleagues (including Riedel), indicates that *Mycoplasma pneumoniae*, a bacterium-like organism, may trigger or exacerbate some cases of Tourette syndrome. Muller et al. report on two cases:

- A seven-year-old boy, who suffered from minor tics since age five. When his tics became severe, medical workups revealed *Mycoplasma pneumoniae* infection. Treatment with erythromycin resulted in a marked drop in the boy's antibody titer, and his tics disappeared.
- A 13-year-old girl with tics and attention deficit disorder. In this case, too, tests revealed *Mycoplasma pneumoniae* infection and erythromycin therapy caused a marked reduction in her tics.

Although *Mycoplasma pneumoniae* generally causes respiratory illness, Muller et al. note that it can also cause infections affecting the central nervous system. "Central nervous system complications often occur without preceding or associated pulmonary symptoms," they note. They conclude, "Infection with various agents, including *Mycoplasma pneumoniae*, should be considered a possible etiological factor in predisposed individuals with symptoms of Tourette syndrome."

Another infectious agent currently being investigated is Borna virus, tentatively linked to some psychiatric disorders (see ARRI 10/3). Ian Lipkin of the University of California at Irvine is studying a possible link between Borna virus and autism.

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"Tourette's syndrome and *Mycoplasma pneumoniae* infection," Norbert Muller, Michael Riedel, Stefanie Forderreuther, Christa Blendinger, and Marianne Abele-Horn, *American Journal of Psychiatry*, Vol. 157, No. 3, March 1, 2000, p. 481. See address below.

—and—

"Lyme disease presenting as Tourette's syndrome," Michael Riedel, Andreas Straube, Markus J. Schwartz, Betina Wilske, and Norbert Muller, *The Lancet*, Vol. 351, February 7, 1998.

Address for either article: Norbert Muller or Michael Riedel, Psychiatrische Klinik, Ludwig-Maximilian-Universitat, Munich, Germany.

UK researchers: kava extract effective against anxiety

Many autistic individuals take anxiolytic (anti-anxiety) drugs such as Buspar and Xanax, but these drugs can have dangerous side effects. A new meta-analysis reveals that kava, a natural, non-prescription plant extract, is also effective in treating anxiety, and with far fewer side effects.

British researchers Max Pittler and E. Ernst examined the results of seven double-blind, randomized, placebo-controlled studies of the effectiveness of kava. Overall, the studies included 377 subjects, taking doses of kava ranging from 150 to 400 mg, two to three times per day.

Pittler and Ernst say in all of the trials, subjects taking kava reported significant reductions in anxiety compared to the placebo groups. In addition, they say, few side effects were reported, and two of the largest studies reported no side effects at all. When side effects were noted, they were usually mild and included headaches, gastrointestinal upsets, fatigue, skin reactions, or sun sensitivity.

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"Efficacy of kava extract for treating anxiety: systematic review and meta-analysis," M. H. Pittler and E. Ernst, *Journal of Clinical Psychopharmacology*, Vol. 20, No. 1, February 2000, pp. 84-89. Address: M. H. Pittler, Department of Complementary Medicine, School of Postgraduate Medicine and Health Sciences, University of Exeter, Exeter, U.K.

Venlafaxine reduces autistic symptoms

A small study of the antidepressant drug venlafaxine (Effexor) indicates that the drug may reduce autistic symptoms.

Eric Hollander and colleagues treated ten consecutive autistic patients with venflaxamine, in low doses ranging from 6.25 to 50 mg per day. They report that six of the ten subjects taking the drug were rated as "very much improved" or "much improved" on the Clinical Global Impressions scale. "Improvement was noted in repetitive behaviors and restricted interests, social deficits, communication and language function, inattention, and hyperactivity," they note.

Hollander et al. report that venlafaxine was well tolerated by the subjects in their study. Side effects reported in other studies include hypertension, nervousness, sleepiness or insomnia, nausea, sweating, dizziness, and dry mouth. Rare but more serious side effects reported by clinicians prescribing venlafaxine either alone or in combination with other drugs include neuroleptic malignant syndrome, hepatitis, and eosinophilic pneumonia.

Venlafaxine works by inhibiting serotonin and norepinephrine reuptake by neurons. In addition, the drug weakly inhibits dopamine reuptake.

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"Venlafaxine in children, adolescents, and young adults with autism spectrum disorders: an open retrospective clinical report," E. Hollander, A. Kaplan, C. Cartwright, and D. Reichman, *Journal of Child Neurology*, February 2000, Vol. 15, No. 2, pp. 132-135. Address: Eric Hollander, Department of Psychiatry, Mount Sinai School of Medicine, New York, NY 10029.