

Biomedical/Legal/Educational Update:

Sodium valproate, risperidone: effects on aggression analyzed

Two drugs, one a psychiatric medication and the other an anticonvulsant, may be useful in reducing aggressive behavior, according to recent studies.

Dutch researcher J. K. Buitelaar administered the psychotropic drug risperidone (Risperdal) to 26 children, 10 to 18 years old, with a variety of psychiatric disorders. Dosages ranged from 0.5 to 4 mg per day, and the children were treated for periods ranging from 2 to 12 months.

Buitelaar reports, "Fourteen (54%) of [the] subjects had a marked reduction in aggression; 10 subjects had a moderate reduction; two subjects had mild changes; and none worsened." Side effects included significant weight gain, fatigue, and sedation.

Buitelaar's study adds to a substantial body of research (see ARRI 10/2, 11/2, 12/2, 12/3) indicating that risperidone is more effective in reducing autistic symptoms than many other commonly used psychiatric drugs. In general, risperidone appears to have far fewer side effects than earlier psychotropic drugs, although some life-threatening side effects have been reported.

In a separate study, J. P. Lindenmayer and A. Kotsaftis reviewed data on 17 studies involving the use of the antiepileptic drug sodium valproate (Depakote) to treat aggressive behavior. A total of 164 patients were involved in the studies, and diagnoses included mental retardation, organic brain syndromes, and dementia.

The researchers say "an overall response rate of 77.1% was calculated when response was defined as a 50% reduction of target behavior." However, sodium valproate treatment was often combined with other drug treatments. "While valproate's general anti-aggressive effect is promising," Lindenmayer and Kotsaftis say, "in the absence of controlled data, conclusions are limited at this time."

While side effects were not evaluated by this study, common adverse effects of sodium valproate treatment include indigestion, nausea, vomiting, drowsiness, diarrhea, constipation, abdominal cramps, weight loss or gain, and hair loss. Rarely, liver failure has occurred in very young children.

"Open-label treatment with risperidone of 26 psychiatrically-hospitalized children and adolescents with mixed diagnoses and aggressive behavior," J. K. Buitelaar, *Journal of Child and Adolescent Psychopharmacology*, Vol. 10, No. 1, Spring 2000, pp. 19-26. Address: J. K. Buitelaar, Depart-

ment of Child Psychiatry, University of Utrecht, Utrecht, The Netherlands.

—and—

"Use of sodium valproate in violent and aggressive behaviors: a critical review," J. P. Lindenmayer and A. Kotsaftis, *Journal of Clinical Psychiatry*, Vol. 61, No. 2, February 2000, pp. 123-128. Address: J. P. Lindenmayer, Psychopharmacology Research Unit, Manhattan Psychiatric Center, New York University Medical Center, New York, NY 10035.

FC in the courtroom

More than 50 studies show that facilitated communication, in which a 'facilitator' purportedly allows a disabled individual to communicate by touching his arm as the disabled person types, is not a valid procedure (see ARRI 7/4). Yet, according to attorney Brian J. Gorman, testimony based on FC is still accepted in many courtrooms, and "the characterization of FC in courts has been transformed from a tolerance of a novel untested methodology to the blatant acceptance of bad science."

In his review, Gorman summarizes the widely differing outcomes of cases involving FC testimony, as well as the influence of the *Frye* and *Daubert* rulings regarding admissibility of evidence. (While *Frye* holds judges to the standard that "scientific evidence will only be admitted at trial if the procedure and results are generally accepted as reliable in the scientific community," *Daubert*—now used as the standard in 14 states—allows judges more leeway in determining what testimony to allow. As a result, FC cases tried under the *Frye* standard generally reject FC testimony, while those tried under *Daubert* may accept it.) In a number of cases, Gorman notes, FC's scientific validity is not considered at all; instead, FC is accepted based on the argument that it is simply "translation," similar to that used by sign language interpreters for the deaf. This argument, Gorman says, overlooks research showing that FC communications originate with the facilitator, not the disabled individual.

Gorman concludes that "FC should not be admitted into court proceedings," based on the fact that studies disprove its validity. He suggests, however, that "prosecutions relying on FC evidence will most likely enjoy success whenever courts are inclined to believe that the defendant 'looks' guilty."

"Facilitated communication: rejected in science, accepted in court—a case study and analysis of the use of FC evidence under *Frye* and *Daubert*," Brian J. Gorman, *Behavioral Sciences and the Law*, Vol. 17, 1999, pp. 517-541. Address: Brian J. Gorman, Law Guardian Bureau, Legal Aid Society of Suffolk County, Cohalan Court Complex, 400 Carleton Avenue, P.O. Box 9082, Central Islip, NY 11722-9082.

Decreasing SIB by requiring 'more effort' proves effective

The restraints and staff interventions often needed to deal with severe self-injury (SIB) can be restrictive and time-consuming. A new study, however, indicates that simply making SIB more difficult, while offering alternative activities, can be an effective technique.

Liming Zhou and colleagues studied four adult women with profound mental retardation. All of the women exhibited frequent hand- or thumb-mouthing severe enough to cause injury or infection. Analysis revealed that in all four cases, the behavior served a sensory rather than a social function.

The researchers selected several preferred items for each subject, and studied the subjects' rates of SIB vs. their rate of appropriate activity with the items. They then implemented a "response-effort" intervention, in which each subject was placed in soft arm sleeves that did not prevent them from mouthing their hands, but did make it more difficult for them to bend their elbows in order to reach their mouths with their hands.

When the participants wore the sleeves, the researchers say, "all participants' hand-mouthing decreased to near-zero levels, and their object manipulation increased to very high levels." This was true even for two subjects who exhibited little or no appropriate activity before the intervention.

The researchers note that the sleeves they used "are much less restrictive than [other] mechanical restraints," and do not require continuous staff observation and intervention. In addition, they say, informal observation indicated that the sleeve intervention continued to be effective when the staff of the subjects' residential center used it following completion of the study.

"Effects of increased response effort on self-injury and object manipulation as competing responses," Liming Zhou, Gerald A. Goff, and Brian A. Iwata, *Journal of Applied Behavior Analysis*, Vol. 33, No. 1, Spring 2000, pp. 29-40. Address: Gerald Goff, Arlington Developmental Center, 11293 Memphis-Arlington Road, Arlington, TN 38002.

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