

Biomedical Update:

Naltrexone: good news

The drug naltrexone significantly reduced self-injury, aggression, and other inappropriate behaviors and increased social interaction in four autistic children, according to a noncontrolled study by Jaak Panksepp and Patrick Lensing.

Naltrexone blocks uptake of opioids, natural opium-like substances in the brain. Studies on animals and opium addicts has linked behaviors such as aloofness, avoidance of physical touch, and lack of separation anxiety to high doses of opium-like substances, and some researchers speculate that the pain-deadening effects of opioids could be a factor in autistic self-injury.

An important finding of the Panksepp and Lensing study was that low doses of naltrexone given every third day offered the best results, while higher doses caused panic symptoms, relapses, and/or excessive clinginess. At the lower doses, no side effects or reductions of effectiveness were seen over a one-year treatment period.

Positive effects included hugging and kissing in children who previously disliked physical contact; increased eye contact and social vocalizations; explorative toy play; reduced temper outbursts; relaxation; and decreased aggressiveness, self-injury, and negativism. Increases in socialization were seen primarily when the children were in socially stimulating situations, leading the researchers to caution that "longer term therapeutic effects of naltrexone may not be as evident in circumstances where excessive care is taken to...insist that observers remain socially unintrusive and unresponsive."

*Brief report: a synopsis of an open-trial of naltrexone treatment of autism with four children," Jaak Panksepp and Patrick Lensing; *Journal of Autism and Developmental Disorders*, Vol. 21, No. 2, 1991, pp. 135-140. Address: Jaak Panksepp, Department of Psychology, Bowling Green State University, Bowling Green, OH 43403.

Fragile X & depression

Clinicians should be alert for signs of depression in individuals with Fragile X syndrome, according to Danish researchers Lisbeth Tranebjaerg and Alena Ørum. The researchers, who successfully treated major depressive symptoms in three mentally retarded men with Fragile X, believe that depression may be underdiagnosed in cases of Fragile X "because of the fact that affective disorders are difficult to diagnose in the mentally retarded."

"The more serious the intellectual and linguistic handicaps," they note, "the more difficult it is to recognize symptoms like self-reproach, feelings of guilt, or verbal expressions of sadness or hopelessness, and the symptomatology is more often dominated by behavioral problems, vegetative disorders, and loss of skills."

The researchers recommend considering

a diagnosis of depression when the behavior of the individual has changed significantly from its normal pattern.

"Major depressive disorder as a prominent but underestimated feature of Fragile X syndrome," Lisbeth Tranebjaerg and Alena Ørum, *Comprehensive Psychiatry*, Vol. 32, No. 1 (Jan./Feb.), 1991, pp. 83-87. Address: Lisbeth Tranebjaerg, Dept. of Med. Genetics, John F. Kennedy Institute, 7 G1, Landevej, DK-2600 Glostrup, Denmark.

Turkish researchers report another male with Rett Syndrome

An additional case of a boy with Rett syndrome—a disorder once thought to affect only girls—was reported recently by Meral Topcu et al. of Turkey.

In addition to having "quite autistic behavior," the researchers report, the boy had numerous symptoms of Rett's including microcephaly (small head circumference), normal development followed by regression, loss of purposeful hand movements, midline hand movements (a classic symptom of Rett's), and poor control of trunk muscles.

Meral Topcu, Haluk Topaloglu, Yavuz Renda, Mustafa Berker, and Guzide Turan; *Brain and Development*, Vol. 13, No. 1, 1991, page 62. Address: Meral Topcu, Dept. of Pediatric Neurology, Hacettepe Children's Hospital, 06100, Ankara, Turkey.

Japan: concern about anesthesia for deliveries

Japanese researchers Ryoko Hattori et al. report a possible link between autism and the use of anesthetics during delivery — specifically a combination of anesthetic drugs used under the "Kitasato University" method employed in Japan.

At one hospital in which this method is popular — and in which 95% of mothers deliver under general anesthesia — 21 cases of autism were found in a study of 11,939 births. At three other area hospitals which use general anaesthesia for delivery much less often, there were 18 cases of autism in 19,580 births.

The Kitasato University method involves the use, before and/or during labor, of drugs including oxytocin, prostaglandins, diazepam, pentobarbital, methoxyflurane (replaced in 1985 by enflurane), and ketamine. Nitrous oxide and oxygen also are administered in some cases.

"We believe," Hattori and colleagues say, "that the delivery process [using this combination of drugs] may increase the risk to the fetus of long-term handicaps such as autistic disorder."

"Autistic and developmental disorders after general anaesthetic delivery," Ryoko Hattori, Motonori Desimaru, Itaru Nagayama, and Keiko Inoue; *The Lancet*, June 1, 1991, page 1357. Address: Ryoko Hattori, Department of Psychiatry, Kikuyo Hospital, Kumamoto 869-11, Japan.

Questions about "ultra-fast" MRIs

New ultrafast magnetic resonance imaging (MRI) scanners, which just became available this year, produce vast quantities of data in milliseconds. Researchers like the ultrafast technique because it produces better images by eliminating blurring caused by movement; patients and efficiency-conscious hospitals like it because it's faster. But is it safe?

At a meeting sponsored by the New York Academy of Sciences, researchers reported on patients who experienced twitching or itching — possible symptoms of peripheral nerve stimulation — during ultrafast scan procedures. While these symptoms were harmless, some researchers worry that patients with heart disease or epilepsy may have more serious reactions.

An FDA official present at the meeting said the agency will wait for more data about possible problems with ultra-fast scans before considering any modification of existing guidelines for using the procedure. Researchers concurred that there currently is no evidence that the electric currents produced in the body by the ultrafast scans cause cardiac arrhythmias or aggravate seizure disorders.

"Biological effects and safety aspects of nuclear magnetic resonance imaging and spectroscopy," conference of the New York Academy of Sciences, May 15-17, 1991, Bethesda, Maryland. See also: "MRI—Safety issues stimulate concern," Lisa Bain, *Science*, Vol. 252, May 31, 1991, p. 1244.

Y chromosome defect reported

U.S. researchers report the case of a three-year-old boy with autistic symptoms and an abnormality of the Y chromosome (partial duplication of the short arm of the chromosome). The boy was retarded, acted aloof, had little social play and poor communication skills, and engaged in many stereotypic behaviors. He also had a small head circumference.

James Blackman et al. note that five cases of autism have been associated with an extra Y chromosome, and that this case — since it involves a duplication of part of the Y — could be considered a variant, particularly since the short arm "is thought to be the most functionally important part of the Y chromosome." The XYY chromosome pattern has also been linked to impulsiveness, aggression, and difficulties with social relationships, although most XYY males do not have such problems.

"Autistic disorder associated with an iso-dicentric Y chromosome," James A. Blackman, S. Claire Seizer, Shivanand Patil, and Don C. Van Dyke; *Developmental Medicine and Child Neurology*, 1991, 33, pp. 153-166. Address: James A. Blackman, Kluge Children's Rehab. Center and Research Institute, University of Virginia, 2270 Ivy Road, Charlottesville, VA 22901.