

# Pharmacological Treatment of Sexually Offending Behavior in People With Mental Retardation/ Developmental Disabilities

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The limited literature from the 1970's to the present that specifically addresses the pharmacologic treatment of sexually offending behavior in people with mental retardation/developmental disabilities (MR/DD) is reviewed within the larger context of the pharmacologic treatment of sexual offending behaviors. The significance of comorbid conditions, both in the assessment and treatment of MR/DD individuals and also in the assessment and treatment of sexual offending behaviors is reviewed. The problem of sexual offending behaviors is also considered within the larger context of the behavioral difficulties and unique vulnerabilities of the MR/DD populations. Several illustrative clinical cases are discussed. The efficacy and potential side effects associated with the use of hormonal agents medroxyprogesterone and cyproterone acetate in the treatment of sexual offending behaviors is reviewed. The theoretical basis for the use of selective serotonin reuptake agents is discussed as well as a review of clinical trials and case reports of the use of these agents. The problems and possible benefits from the appropriate use of antipsychotic agents is also briefly reviewed. *Keywords: antiandrogens, depo-provera, developmental disability, mental retardation, paraphilia, pedophilia, pharmacotherapy, selective serotonin receptor inhibitors (SSRI's), sex abuser, sex offender*

The use of pharmacologic interventions for sexual offending disorders in people with mental retardation/developmental disabilities (MR/DD) is an emerging field of application and study. The need for evidence-based practice parameters is now recognized.<sup>5,39</sup> Prescribing is essentially "off-label," that is, not within the scope of the FDA approved indications for these drugs. This treatment is supported by case studies and a limited number of directly relevant controlled studies, and, by extrapolation, from the larger body of knowledge of treating the psychiatric needs of both sex offenders and of individuals who have MR/DD. For this reason, it is essential that all interventions be based on a thorough assessment of the offending behaviors and comorbid conditions. Furthermore, this clinical basis for the decision-making needs to be presented to the individuals requiring treatment and any guardians that might be involved as such.

Pharmacologic treatment of the sex offender who has MR/DD is based on the current understanding of: (a) the etiology and treatment of better understood mental disorders, (b) the etiology and treatment of sexual disorders in higher functioning populations, and (c) the etiology and treatment of behavioral disorders

(including sexual behaviors) in the MR/DD population. In considering the pharmacological treatment of the sex offender who has MR/DD, one should consider the following possible typical characteristic deficits, which in certain contexts and environments, may become significant, predisposing risk factors: (a) lack of ability to generate alternate solutions, (b) limited insight, (c) lack of ability to anticipate or understand consequences, (d) lack of or limited capacity for empathy, (e) lack of ability to delay gratification, (f) impulsivity, and (g) poor affect regulation, low frustration tolerance, and a limited ability to "self-soothe." The environment may provide further predisposing influences including exposure to violence, direct victimization, premature sexualization, inadequate parenting and lack of supervision.

Treatment considerations are further complicated by how little is known about sexual disorders in special populations. In one study of adults with MR served by community day programs, Reiss<sup>34</sup> found that 11.5% had a "sexual problem" and that an additional 1.5% had what the study defined as a "serious sexual problem." These data are similar to Murphy and colleagues<sup>27</sup> estimate that 10-15% of sexual offenses are committed by individuals who have MR and is

only somewhat higher than the expected rate of 9% based on their distribution within the larger population.<sup>9</sup>

A variety of behavioral interventions have been described in the literature but typically, studies have not included a determination of the core sexual orientation or an explication of the arousal patterns of those who offend. Most of the sexually offending behaviors described in the literature concerning people with MR/DD refer to impulsive “quality-of-life offenses” such as exhibitionism, disrobing, and masturbating in public among those who have severe MR, rather than the more complex multi-step tasks of predatory pedophilia by individuals with higher cognitive abilities. In these cases, the pedophilic and paraphilic acts are probably best considered as being along the continuum with similar acts of deviance in non-intellectually impaired persons.

#### **IDENTIFYING AND TREATING COMORBID CONDITIONS**

Identifying and treating comorbid conditions is an important feature of pharmacological intervention with sexual offenders. However, there is scant literature addressing the question of the comorbidity of DSM diagnoses in the sex offender who has MR/DD. Galli and colleagues<sup>15</sup> recently provided important clinical data regarding the question of comorbidity of DSM diagnoses in sexual offending adolescents, finding that 95% of their sample of 22 met the full diagnostic criteria for two or more paraphilias and 82% fulfilled criteria for one or another mood disorder. In addition, greater than 70% met criteria for Attention Deficit Hyperactive Disorder (ADHD). About half of the sample met criteria for an anxiety disorder, an Impulse Control Disorder (as well as sexual offending), a Substance Abuse Disorder or Bipolar Disorder. The study did not address the extent of cognitive impairment or learning disabilities in the study sample.

Raymond, et al.<sup>33</sup> evaluated 45 adult male pedophiles and found a similarly high level of comorbidity with slightly higher levels of Anxiety Disorder (67%) and Substance Abuse Disorders (60%). Clearly, whether or not the clinician considers possible comorbid conditions to have a direct effect on an individual's offending, a psychiatric treater of the cognitively impaired sexual offender may well have to weigh pharmacologic considerations for any additional diagnoses as part of the treatment plan. Typical comorbid, treatable conditions found in the

MR/DD population include a range of anxiety disorders, psychoses, mood disorders, and disorders of attention and impulse control.<sup>45</sup>

#### **PHARMACOLOGICAL TREATMENT: OVERVIEW**

Treatment of sexual offenders by altering their neurochemistry is a relatively long standing approach, but the field has expanded as the range of available agents and options has grown along with our understanding of how the hormonal environment of the brain impinges on behavior. We also have witnessed more diagnostic sophistication concerning the multiple factors that can influence offending behavior.

Pharmacological intervention can be divided into two broad categories. The first category is direct hormonal intervention. This includes all interventions that have a common end point of reducing the effect of the sex hormones on the parts of the brain associated with the creation and maintenance of sexual ideas and urges, as well as the initiation and performance of sexual acts (or acts with a strong sexual content), including the acts and preoccupations that are judged to be deviant.

The second category consists of indirect intervention and includes treatment of comorbid conditions or general tendencies, such as aggression and impulsivity, which often accompany and exacerbate deviant sexual attitudes and acts. Comorbid psychiatric disorders which might increase the likelihood of an at-risk individual to commit sexually deviant acts include Major Depression, Bipolar Disorder, Social Anxiety Phobia or Phobias and Attention Deficit Disorder (ADHD).<sup>20</sup> Some other psychiatric diagnoses are relevant, and possibly contributory, but may be less directly treatable by pharmacologic interventions, such as MR/DD or certain personality disorders. However, individuals with MR/DD are subject to concomitant increased vulnerability to anxiety experiences, mood disorders or psychotic episodes that are amenable to pharmacologic interventions.<sup>45</sup> Neurologic conditions represent another potential influence on the emergence of sexual disinhibition and offending behaviors. Frontal lobe syndromes such as the Kluver-Bucy syndrome,<sup>29,42</sup> traumatic brain injuries, and certain neurodegenerative conditions can be considered here.

A fifth consideration is sequelae to psychological trauma, including abuse-reactive sexual offenses. A high percentage of sexual

offenders have significant trauma in their background such as witnessing domestic abuse or experiencing extreme emotional, physical, and sexual maltreatment. Individuals with MR/DD are especially at risk to all forms of abuse. These experiences may precipitate Panic Disorder, Post Traumatic Stress Disorder (PTSD), and mood dysregulation. All these conditions may be amenable to pharmacological treatment to reduce symptoms, with the overall understanding that the better psychically compensated the individual is, the greater his or her chance is to not engage in compensatory behaviors that are injurious to themselves or others. The aggression that often accompanies PTSD responds to a variety of medications, depending on the specific symptoms targeted and the medication class selected. Although no one medication or class of medications targets the full range of symptoms that can arise out of PTSD, Yehuda<sup>48</sup> emphasized hyperarousal as a key PTSD symptom. He notes that several classes of medications have been effective and might serve to reduce the concomitant impulsive and aggressive behaviors, which conceivably could include sexual aggression. Medications cited in her review include lithium, anticonvulsants (carbamazepine and valproate), SSRI agents, and antihypertensives (including beta-blockers such as propranolol and the alpha-blockers such as clonidine).

Disorders which include dysregulation of impulse control, including ADHD and certain compulsive disorders may lead to an increase vulnerability of individuals to sexual offending, especially when compared to individuals suffering from paraphilias but not significant impulse dysregulation. Alternately, sexual offending has been considered as part of the spectrum of obsessive-compulsive disorders.<sup>7,22</sup>

Some clinicians have gone further and have asked if sexual offending falls within certain larger DSM disorder classifications such as the disorders of impulse control and may represent anxiety-driven compulsive behaviors. These considerations are more than just classification exercises. Empirical pharmacological interventions are based on the knowledge of how other patients with categorizable disorders or symptom clusters have responded to certain agents or classes of agents.

#### **PHARMACOLOGICAL TREATMENT: GUIDING PRINCIPLES**

At one time, psychiatrists would freely tell patients that a medication such as fluoxetine was an “anti” depressant. This evoked the issue of a chemical “defeating” the invading disease, depression, by “restoring balance” to the brain’s neurochemistry. Contemporary thinking is best reflected by classifying a pharmacologic agent on the basis of its known or postulated actions in the brain and body, rather than defining it as having a specific effect on the symptoms of disease categories. Treatment efficacy is but one of the many changes that a medication produces in the body; it is just usually the one receiving the most attention.

Fluoxetine is thought to exert its psychotropic effects by increasing intracellular concentrations of the neurotransmitter serotonin at certain neuronal sites. We even have a reasonable (but not universally accepted) model of how this increase in concentration happens and may act to relieve the experience of depression. However, medications that do not substantially directly increase intracellular serotonin also treat depression successfully by virtue of some other mechanism. The mechanism, therefore, does not represent an exclusive pathway to the amelioration of the condition. A full discussion of the underlying neurobiological principles is beyond the reach of this article, but is not beyond the grasp of the nonprescriber without a biochemistry background. In fact, a new category of publication has arisen, handbooks that provide basic information about psychopharmacology for the nonprescriber. This information includes basic “menu-type” descriptions of what a pill might be “for” and what actions or side effects could occur, all the way to sophisticated primers that could serve as refreshers for seasoned psychiatrists.<sup>16</sup>

At the other end of the end of the spectrum, the prescribing psychiatrist knows that if a patient takes a pill that increases intracellular serotonin in the areas of the brain where fluoxetine is known to act, the patient will (more often than not) experience relief from Major Depression, Obsessive Compulsive Disorder, PTSD or Bulimia Nervosa. Furthermore, as of late 1999, the FDA gave its approval to the prescribing of this particular medication for these specific, but varied conditions. These are among the official “on label” indications which are listed in package inserts and in the Physician’s Desk Reference.<sup>30</sup>

Psychiatrists, however, often prescribe knowingly and intentionally for “off label” interventions. In the case of fluoxetine, this might

include, but is not limited to, using it to treat PMS, migraine, Raynaud's syndrome, premature ejaculation, obsessive gambling, a wide range of eating disorders and pain syndromes, panic attacks, and anxiety disorders. It is important to remember that all use of medication to treat sexual impulse behavior disorders is, at this time, "off label" and largely empirical. That is not to say that there are no studies demonstrating efficacy. As cited below, there is research showing a high degree of efficacy for a variety of interventions.

As with any therapy that seeks to understand and alter the "inner world" of the patient, pharmacological treatment of people with MR/DD requires sensitive and carefully paced interviewing, as well as astute observations of changes in behavior or demeanor. In addition, given the limited abilities of self-observation that characterize this population, staff observation and measurement of target behaviors within a residential setting can provide important clues as to the efficacy of a particular intervention.<sup>3</sup>

Pharmacological treatment of sexually offending behavior in people with MR/DD should be grounded in the principles of psychopharmacology and the fundamentals of treating this specialized population. Key elements include:

1. Performing a standard work-up that considers a review of family, individual, medical, psychological, and prior treatment histories.
2. Rendering a differential diagnosis when warranted.
3. Isolating the role of environmental and interpersonal conditions associated with the offending behavior.
4. Obtaining informed consent about the potential benefit and risks of the treatment, as well as the assent of the individual who is not his or her own guardian.
5. Establishing a plan for measuring treatment response through quantitative methods.
6. Regularly scheduling case reviews of treatment efficacy and re-evaluation of patient progress.
7. Assessing for the potential of and intervening in the case of potential side effects.

8. In the case of hormonal treatments, arranging for consultation and ongoing assessment by a knowledgeable endocrinologist.

9. Having competencies in conducting detailed, sexual history interviews and in assessing individuals who have cognitive limitations and expressive and/or receptive language deficits.

10. Including pharmacological interventions within the larger context of multi-modal treatment of sex offending behaviors.

11. Having knowledge about dual diagnoses, medication dosage and combined effects, specific predictors of drug response, and the current research literature.

There is a separate set of diagnostic and treatment considerations for interventions directed at the socially and sexually inappropriate behaviors of the MR/DD population. One must consider that these behaviors may include normative, but situationally inappropriate behaviors, such as public masturbation or mutually consensual adult sexual contact in a residential setting, or they may be primarily aggressive or antisocial acts which include sexual components, such as assault. Socially incompetent individuals may express their sexual urges, including age appropriate yearnings and interests in socially or situationally inappropriate acts. Without the basic knowledge of, or the capacity to conform to, appropriate sexual behaviors more cognitively impaired individuals may initiate non consensual or offending sexual behaviors without realizing the seriousness of their acts. In some cases, the offending acts may arise out of the impaired individual's attempts to be accepted as "normal" by himself or presumed peers. However, most individuals with MR have been found to not engage in indiscriminate sexual behavior.<sup>44</sup> As these behavioral variants imply, inappropriate sexual behaviors should not be routinely excused as secondary to the individual's limit in cognitive function. These acts require the same full offender assessment that these behaviors would be accorded in non-impaired individuals.

Abel et al.<sup>1</sup> demonstrated that index incidents of sexual offending behaviors emerge in early adolescence, earlier than had been previously thought and that offending behaviors are typically

pleomorphic. Offenders are often versatile in their paraphilias and behaviors and typically do not limit themselves to one modality of offense or one sole victim category, even if there is strong preference. As Abel has emphasized, it is critical to inquire in a methodical manner about the full spectrum of potential offending behaviors before characterizing the problem. Abel et al.<sup>2</sup> interviewed over 1,000 known adult paraphilias and found that 42% had engaged in paraphilic behavior before age 18. This sample also had already developed a wide range of deviant interests including bestiality (72%), fetishism (69%), pedophilia, male victims (63%), pedophilia, female victims (50%), sadism (49%) and rape (35%).

Furthermore, offenders with MR/DD are not simply different because of their offending. There is substantial anecdotal data suggesting that their response to pharmacologic interventions may not replicate the response found in the non-impaired population. Response to SSRI's may be less robust overall when compared to non-impaired offenders. A differential response may also be seen. Ott<sup>29</sup> treated a patient with dementia and features of Kluver-Bucy syndrome and was able to control verbal and physical aggression with propranolol. However, sexual aggression and accompanying inappropriate behaviors were not diminished until leuprolide was also prescribed. In contrast, Slaughter and colleagues<sup>42</sup> successfully used SSRI's alone to treat two cases in which Kluver-Bucy syndrome was acquired after traumatic brain injuries. Perhaps certain neurochemical pathways to sexual aggression are more responsive to SSRI medication than others.

The importance of conducting a thorough assessment prior to undertaking pharmacological treatment can not be over emphasized. Especially with more impaired individuals, one can expect to find concomitant mental illnesses, ranging from mood, anxiety, and psychotic disorders at three to four times the frequency found in the general population. Their limited insight, judgment and adaptive capacities leave these individuals particularly vulnerable to environmental social forces. Furthermore, Prentky,<sup>32</sup> among others, has emphasized medications, especially antiandrogens, should not be prescribed exclusively as "stand-alone" treatments for sexual aggressive and sexual offending behaviors.

As noted earlier, informed consent prior to the administration of the medication should include a thorough discussion of the potential risks

versus the benefits of the medication as well as the potential side effects, both short and long term. The consent process should be considered as an active, ongoing, documented inquiry and dialogue and should probably be conducted in conjunction with the therapist who performs therapy with the offender so as to assure that a required degree of understanding has been achieved. Morris et al.<sup>26</sup> proposes a five step protocol for moving through the consent process with individuals who have MR/DD. However, in the case of severely cognitively impaired individuals, it may be necessary to seek guardianship of the individual specific to the prescribing of this medication. Consultation with a forensic psychiatrist or psychologist may help to clarify a particular situation.

### **PHARMACOLOGICAL TREATMENT: SPECIFIC MEDICATIONS AND EFFECTS**

#### *Hormonal Treatments*

Pioneering work utilizing hormonal treatments for sex offenders was undertaken by John Money<sup>25</sup> in the 1960's and 70's. Almost twenty years ago, Gagne<sup>14</sup> demonstrated diminished deviant sexual fantasies and arousal patterns and in adults (presumably noncognitively impaired males) treated with medroxyprogesterone acetate and milieu therapy. The decrement in deviant interest was reported to have been maintained even after the treatment ended. There was no evidence of permanent physiological changes. While the dramatic effects of this medication in decreasing intensity and frequency of sexual preoccupation, sexual fantasy and sexual behaviors have been replicated by other investigators,<sup>32</sup> use has been tempered by growing knowledge of possible side effects. The known range of side effects includes the possibility of substantial weight gain, decreased glucose tolerance, diabetes mellitus, cholelithiasis, hot and cold flashes. The literature on antiandrogens treatment of offenders who have MR/DD, however, remains scant.

Clarke<sup>9</sup> reviewed earlier studies conducted on small populations (5 to 18) of male offenders with MR who were treated with cyproterone acetate (CPA). Improvement in the index behaviors (sexual assault or public masturbation) was documented for approximately one-half of the patients being studied. In a review of relevant literature up to 1995, Cooper<sup>10</sup> estimated that for both medroxyprogesterone (MPA) and CPA treatments,

about 10% of the subjects in those studies had MR. However, he found that no more than 100 patients combined from **all** of the reported studies were diagnosed as having MR/DD.

There is substantial variability in the application of MPA and CPA. Both medications are available to physicians in Canada without restrictions and both are utilized to treat offenders. Although they are both available in the United Kingdom, CPA was the medication of choice there in the early 1990's. In the United States, MPA has a long history of use as an anti-libidinal agent. CPA only had FDA approval for treating hirsutism in females and prostatic cancer in males and was also given to delay precocious puberty. But it was also used as an off-label treatment for sexual drive reduction. However, regulations varied from state to state. Its use was outlawed in some states, and it was ultimately taken off the market in this country. As much of the literature on the use of hormonal therapy to treat cognitively impaired sex offenders originates in Europe, there is less published on the specific application of MPA to this population, Myers<sup>28</sup> report being an exception. To date, no medication has received FDA approval for use as an anti-libidinal agent for the treatment of sexual offending behaviors.

MPA is available in the United States as Depo-Provera® in both oral and intramuscular forms.<sup>6</sup> It has several mechanisms of action, increasing the enzymatic breakdown of testosterone and also decreasing testosterone production and release by inhibiting the production of luteinizing hormone (LH) and follicle stimulating hormone (FSH) which in males normally signal the release of testosterone from the testes. Common side effects of MPA include weight gain and increased blood pressure. Less common side effects include osteoporosis, hot and cold flashes, and thrombophlebitis. Other side effects can include muscle cramps, mood swings, insomnia, increased fatigability, transient impotence, decreased glucose tolerance, diabetes mellitus, and the production of gall stones.<sup>47</sup> Decreased sperm count and testicular atrophy and infertility have both been reported as reversible when MPA was discontinued. All staff working directly with individuals who have cognitive impairments and receive this treatment need to be aware of the potential side effects and should have a summary of them readily accessible. Continuous monitoring would include weight measurement, diet adjustment, and blood pressure readings. Staff

should know that patients receiving MPA could experience nightmares, fatigue, or muscle cramping or general malaise. They also should attend to signs and symptoms of phlebitis. Studies of the use of MPA generally report impressive, but not universal, success. Meyer et al.<sup>24</sup> in a study of 40 treated men and a control group found that, of those who complied with treatment, 18% reoffended. This was compared with the reoffense rates of 35% in the discontinuation group and 58% in the control group.

Luteinizing hormone-releasing hormone (LHRH) agonists (leuprolide, available in the analog formulation Leupron Depot®) mimic the effects of LHRH in the body and are gaining acceptance as a treatment for paraphilia. Administration can be intramuscularly or subcutaneously, administered weekly to monthly or longer. Leuprolide has a different mode of action than other hormonal agents, essentially putting that part of the hypothalamic pituitary axis into overdrive until it "exhausts" the production of testosterone, producing the equivalent to a "chemical castration." There is, however, an initial surge of testosterone production, which must be pharmacologically blocked for the first several weeks. Important side effect considerations for leuprolide include such menopause-like phenomena as nausea, vomiting, constipation, sleep disturbance, fatigue, and weight gain. Osteoporosis and impotence also can occur. Additional side effects that have been reported less frequently include bone pain, breast swelling, headaches, dizziness, hearing loss, mood swings, depression, and EKG changes. Sperm count is lowered, which may make the individual infertile. As above, staff and care givers should be aware of which parameters to monitor regularly, which symptoms might be mistaken for other conditions or behavioral changes, and which symptoms might require acute interventions.

The therapeutic effects of leuprolide appear to be fairly dramatic, with an essential eradication of deviant sexual fantasies and desires after several months of continuous treatment. Rosler and Witzum<sup>36</sup> reported that these effects persisted though treatment and continued even after treatment was discontinued, as long as testosterone remained at the prepubertal level. Case studies have reported successful treatment with LHRH agonists for patients who had failed treatment with MPA and CPA.<sup>11</sup>

### *Selective Serotonin Reuptake Inhibitors*

A deficit in serotonin functioning has been postulated as significant risk factor in a range of impulsive disorders, first linked through the correlation between decreased cerebrospinal fluid serotonin found in depressed, suicidal patients.<sup>37</sup> A lower baseline brain serotonin level also has been suggested as a predisposing factor for a range of compulsive conditions, including obsessive-compulsive disorder, trichotillomania, and compulsive gambling.

A separate, but relevant factor is the direct effects that serotonin reuptake agents have on sexual functioning. Initially, sexual dysfunction secondary to treatment with SSRI's was underestimated and under-reported, probably because clinicians failed to inquire specifically about sexual function in their patients. SSRI's are known to cause a range of sexual side effects including decreased sexual drive and interest, impotence in men, a failure to achieve analogous physiological arousal in women, and inability to reach orgasm in both sexes. Rates of sexual dysfunction have been reported as high as 67%.<sup>13</sup> Typically, few patients spontaneously report sexual dysfunction which is one explanation of why these problems were found at a lower level in the earlier clinical trials. The true extent of the problems with desire, arousal and performance have only become known in the light of detailed focused directed inquiry. While the dysfunction-causing effects of the SSRI's may be a factor in their reported success in treating individuals with sexual offending behaviors, it is not a complete explanation.

SSRI's have been found to reduce overall sexual drive, sexual preoccupation and sexual arousability. The following case example, although unusual in that it is so benign, is typical of the type of relief that patients can report from SSRI's.

#### *Case 1*

*Mr. A was a married man in his late 20's. He came at the behest of his wife who accompanied him to the first visit. They were both photogenic, highly attractive individuals who enjoyed the emotional intimacy of their relationship and considered the sexual relationship satisfying. Both were successful young professionals. The man had what he described as a "disruptive habit" that he could not overcome. Whenever he passed an attractive young woman, he felt compelled to turn*

*his head and give her a long, serious look, whether he was alone or with his wife. Subsequently, he needed to carry out the second half of this compulsion, which was to go home and masturbate that day to a fantasy about that woman. Paroxetine (20mg daily) helped him to feel less anxious overall but also made it difficult and sometimes impossible for him to reach orgasm. At 10mg per day, his full sexual function returned, and he no longer felt that he was at the mercy of this compulsion. Finally, he found that he did not have to take paroxetine daily. He did not experience withdrawal symptoms that sometimes accompany abrupt discontinuation of short acting SSRI's. He remained free from his compulsion if he reinstated paroxetine when the impulses started to plague him again. He would then continue taking paroxetine for the next seven to ten days and then discontinue it until he felt a resurgence of the compulsions, usually several months later. He has continued this strategy successfully for over three years. This is additionally unusual because Obsessional Compulsive Disorder (OCD) symptoms usually respond to doses of SSRI's higher than those used to treat mood disorders.*

Some sexual abuse behaviors are more clearly impulsive and have been typed as a form of "sexual OCD." This is thought to arise from underlying neurotransmitter deficits similar to classic OCD, and includes compulsive masturbation or self touching, or any highly repetitive behaviors such as use of telephone sex lines, collecting pornography, or gathering

particular items of clothing. Persons having these sexual compulsions may exhibit other OCD spectrum disorders. In a corollary to the classic OCD formulation, persons with sexual OCD addictions experience a sense of shame rather than relief after completing the act and struggle to get their behaviors under control.

Although fluoxetine has been studied most frequently, all of the SSRI's have been employed to treat impulse disorders,<sup>49</sup> OCD and by extension, the sexual impulse disorders, sexual obsessions or "addictions," and paraphilias in patients with and without Major Depression.<sup>43</sup> Greenberg et al.<sup>17</sup> found a marked reduction in the paraphilic fantasies on all three tested SSRI's for the 58 subjects that he followed over 12 months. Greenberg and Bradford<sup>18</sup> then followed 95 paraphilics and found that SSRI's decreased both

the frequency and severity of paraphilic fantasies. This study also supported the efficacy of buspirone, an anti-anxiety agent with limited serotonergic activity. However, some studies found that the subjects' OCD symptoms would respond to treatment with SSRI's while paraphilic urges remained unaffected.<sup>43</sup>

The proposed mechanism for the reduction of OCD-like sexual compulsions involves increasing the central serotonin neurotransmission and concomitant central brain reduction of neurotransmission of dopamine. These combined changes are believed to inhibit sexual behavior. When this treatment is successful, there is a decrease in the intensity of the drive to commit paraphilic and pedophilic acts (as well as in depressive symptoms, if they were present). But there is not an additional overall reduction in sexual desires, and this can lead to an increase in the frequency (or even an initiation) of non-deviant sexual behaviors. Dosage of the SSRI medications needs to be determined on an individual basis. However, the treatment protocol is analogous with the treatment of OCD, in that SSRI doses are titrated against treatment effect, with the consideration of any limiting side effects. As with the treatment of OCD, higher doses of the SSRI medication than those typically used to treat depression are utilized. A recent study found no appreciable comparative difference in the efficacy of fluoxetine, fluvoxamine and sertraline in the treating the paraphilias.<sup>12</sup>

Drawing on the work of Kafka<sup>9-22</sup> and others,<sup>7</sup> I have utilized SSRI agents in my clinical practice to treat cognitively impaired young adult males ranging in age from 16 to 23. The first consideration is the intersection of the various treatment effects the SSRI agents can have. In two instances, the SSRI trial had to be discontinued because of the substantial increase in masturbatory behaviors in these young men. The SSRI's had not dampened any of their impulses, compulsive thoughts, or overall sex drive. They were no less focused on their sexual deviant interests. However, they had suffered a substantial decline in their abilities to reach orgasm and even brief respite from their sexual drives. Because of this, they had taken to masturbating even more vigorously and for longer periods. They both complained about urethral irritation and some discomfort on urination. These two individuals also reported an overall increase in their sexual focus. Another cognitively impaired young adult in residential treatment was

treated for ongoing deviant fantasies and sexual grooming behaviors. He did not respond to fluoxetine at 80mg/day or fluvoxamine up to 300mg/day. When started on citalopram, he initially reported a modicum of relief at 30mg/day, which quickly faded. The dose was increased to 40mg and he reported some respite from sexual obsessions and the impulse to groom peers for possible sexual contact within the residence. This, too, faded within eight weeks and he approached me, asking if it was possible to again raise the dose. He is currently taking citalopram 50mg/day and he is again reporting some relief, a decrease in the intensity and frequency in his pedophilic urges and a concomitant decrease in sexual grooming or furtive sexualized behaviors.

#### *Antipsychotics/Neuroleptics*

Neuroleptics have a long tradition of being employed as both a first line and last resort intervention for the "chemical" control of undesirable behavior. The liberal application of neuroleptics to address a wide range of undesirable behaviors continues, but overall there is now a greater appreciation of the usefulness, limitations and risks of this intervention. Traditional antipsychotic medications such as haloperidol and chlorpromazine were used with people who have MR/DD to alleviate psychosis and to control overt aggression. Actual studies of the efficacy of the use of the neuroleptics have been more equivocal. For example, Singh and Aman<sup>40</sup> studied adolescents with severe MR and found that when compared with placebo, stereotypy, hyperactivity, and bizarre behavior were reduced with thioridazine. The effect was noticed whether the dose given was 2.5 or 5.2mg/kg per day. These doses did not seem to impair the individual's performance in following instructions or responding to attentional tests. Campbell et al.,<sup>8</sup> in her important early study using haloperidol in children with Autistic Disorder, found a reduction in stereotypies and withdrawal behavior in older children but not in younger ones. Significantly, improved learning was found in some instances on lower doses, but higher doses were found to be more sedating. More recent studies consistently demonstrate the superiority of the newer atypical antipsychotics as agents used for the control of aggression.<sup>46</sup>

These medications are most useful in the direct amelioration of psychotic states and the attendant disinhibition, impulsive aggression, and

sometimes, sexual behaviors that can accompany these states. This application can be blurred with the more generalized use of neuroleptics to quiet and calm the acutely aggressive and assaultive individual. The judicious application of neuroleptics is additionally confounded by the significant psychological vulnerability of people with MR/DD<sup>35,45</sup> to transient psychotic episodes. These brief psychotic episodes may respond well to environmental intervention and judicious intermittent use of neuroleptics.

While neuroleptics can be quite calming, they are also sedating and obtunding, further suppressing already limited cognitive functioning. One of the goals in the intervention with sex offending behaviors is to instill a greater internal locus of control and the capacity to make appropriate, acceptable choices about sexual behaviors. The cognitively dulling aspects of these medications may therefore significantly interfere with the learning capacity and skill acquisition of offenders with MR/DD.<sup>4</sup>

One consideration is to view individuals with certain psychotic features (loosening of associations, schizoid, or schizoid personality disorders with paranoid delusions or intrusive ideas) as having quasi OCD-like symptoms. This is sometimes seen in the context of perseveration and rigidity consistent with Moderate MR.

## Case 2

*Mr. B is a 20-year-old male with Moderate MR and a history of having been abducted and sexually victimized as a child. Following this, he developed a pattern of aggressively offending young children in a somewhat parallel manner. He now experienced intrusive repetitive thoughts about his own victimization, which he found to be both sexually stimulating and a trigger to his reoffending. During his therapy in residential group treatment, when he began talking about his own victimization, Mr. B experienced an increase in pedophilic urges, which led to an increase in sexualized grooming behaviors. His arousal pattern did not respond to a range of carefully mapped out behavioral relapse-prevention techniques. High dose trials of three different SSRI medications were of no benefit in reducing his sexual urges or behaviors. Furthermore, these medications did little to lower the substantial amount of anxiety that he experienced around recalling these feelings. By the end of the third trial, he was quite frustrated. Although he had no history of auditory or visual hallucinations and never suffered from a delusional disorder, a review of prior testing, revealed some psychotic tendencies including loose associations and paranoid ideas. On reconsideration, it was thought that he did have a significant formal thought disorder, with disturbances of word use, grammar, syntax, and communication of meaning. This became more apparent when he became more tangential and disorganized, but never fully resolved at other times. He consented to a low dose trial of risperidone, with good results. His classroom performance improved, and he appeared more coherent and less anxious. Once he started taking risperidone, he reported that he was thinking more clearly and experiencing a decrease in the frequency and intensity of overwhelming memories and traumatic flashbacks. Staff observed fewer grooming behaviors. He described a sense of relief and pride over his increased ability to control his sexual impulses towards other students.*

Individuals with MR/DD are especially vulnerable to all the known side effects of neuroleptics. Tardive dyskinesia has been reported in persons with MR exposed to

neuroleptics in rates as high as 30%, much greater than that reported for the general population.<sup>23</sup> The newer antipsychotics (risperidone, olanzapine, quetiapine, clozapine) generally have fewer neuroendocrinological and neurologic side effects and are less cognitively dulling. Nevertheless, they should not be thought of as a “free ride” relative to side effects. Clozapine has significant unique risks including agranulocytosis and spontaneous seizures, yet it also has a unique treatment response and in many ways has set the “gold standard” of treatment response for atypical antipsychotics. Weight gain, sedation and gynecomastia in the case of risperidone are important considerations. In addition, as experience with these agents grows, we learn that traditional risk considerations apply, if only at a reduced level. As of this writing, case reports of new onset tardive symptoms in adults who were neuroleptic naive prior to treatment with olanzapine have been reported. Extrapyramidal symptoms (EPS), parkinsonian symptoms have been observed in patients taking all currently available novel antipsychotic medications, although less frequently and usually at higher relative doses when compared to conventional agents. However, these agents appear to have a definite place in the treatment of sexual offending by individuals with MR/DD. First, these agents, especially in relatively low doses, are effective in treating the cognitive distortions and loosening of associations that can represent quasi-psychotic thinking, which in itself may represent a hurdle to effective treatment. Second, these agents have been found to be superior to traditional antipsychotic agents in controlling a number of comorbid conditions found in psychotic disorders when measured on scales such as the Positive and Negative Symptoms of Schizophrenia (PANSS) and the Brief Psychiatric Rating Scale (BPRS) - particularly depression, aggression and hostility, all of which may represent risk factors for some forms of sexual offending. It follows from this approach that lithium, which has successfully treated aggression if there is an affective component, might be considered as an adjunctive treatment for some sex offenders.<sup>41</sup>

### **DISCUSSION**

Pharmacological treatment holds much promise for the treatment of sex offenders who have

MR/DD but the clinician must proceed cautiously as limited research has been done with this population and much of the work now undertaken is by extrapolation from studies on more cognitively intact populations. Greater success has been found with antiandrogens which, by virtue of their direct effect on sex hormones, have the most power for driving down both deviant and normative sexual drives. The response of cognitively impaired sex offenders to other agents is more equivocal and is sometimes more subtle. The response to SSRI's is more variable. Often, failure to respond to a first line SSRI does not preclude future success with a second agent. Neuroleptics such as haloperidol have been utilized broadly to treat all forms of uncontrolled aggression. Their direct effect on the dopamine neurotransmitter system activity can cause sexual dysfunction, and hence produce an indirect effect on sexual function. They also sedate and contain all behaviors, whether antisocial or not, and, due to the degree of sedation, depress all activity and cognition, desirable or not. Besides the risks of tardive dyskinesia, neuroleptic malignant syndrome, and parkinsonian-like rigidity, these agents are also fairly obtunding, further depressing the patients already limited intellectual ability and in that manner, limiting their ability to progress in treatment. When offenders suffer from psychotic disorders or present with psychotic thought processes, these agents and the newer, atypical agents, which are less cognitively dulling, may play a major treatment role. The atypical antipsychotics, (clozapine, quetiapine, risperidone, olanzapine) have been used successfully as adjuncts to treat OCD, aggression, mania and depression and also have a role in treating both aggressive offenders and offenders with psychotic processes. Their effect is less direct and may be more variable. These agents should not be thought of as first line treatment. Additional anti-aggressive agents such as lithium may have a role in dampening the aggressive component of the sexual offending. Medications prescribed to treat problems of impulsivity associated with ADHD (methylphenidate, dexamphetamine, Adderall (a combination of two forms each of amphetamine and dextroamphetamine) may also have a place as adjunctive agents.

*Disclosure of Off-Label Usage*

The author has determined that, to the best of his clinical estimation, the following agents mentioned in this article are not approved for these respective uses: impulsive aggression (antidepressants, carbamazepine, lithium, valproate), sexual offending behaviors (risperidone, quetiapine, olanzapine and clozapine as well as the SSRI agents paroxetine, fluoxetine, sertraline, fluvoxamine and citalopram and hormonal agents, leuprolide and medroxyprogesterone).

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