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Troelstra, J.A.; Kossen, M.; Niemantsverdriet, J.; Oei, T.I.

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Chapter 8
Incapacitation: Anti-libidinal Medication in the Treatment of Sex-Offenders

Jelle A. Troelstra, Monique Kossen, Jan R. Niemantsverdriet and Karel Oei

Introduction

Incapacitation is generally interpreted as a type of preventive measure in which relapse in criminal behavior is actually made impossible by a sanction imposed by a court. Medical treatment of sex-offenders by means of anti-libidinal medication can be considered as an example of incapacitation. This medication may be provided in the Netherlands during the execution of a compulsory psychiatric treatment order imposed by a criminal court under the Dutch Penal Code (the so-called TBS order). It is imposed for only the most severe offenses. A relation must be proven to exist between the offense and a mental disorder. This disorder can be, for instance, schizophrenia, pedophilia, a personality disorder and so on.

There are two types of anti-libidinal medication: on the one hand psychopharmaca, consisting of either SSRI antidepressants (Selective Serotonin Reuptake Inhibitors), which enhance the availability of serotonin in the brain, or anti-psychotic medication, which reduces the availability of dopamine in the brain, and on the other hand Androgen Deprivation Therapy (ADT), which reduces the availability of androgens such as testosterone. ADT is often referred to as “chemical castration” by the general public. This contribution describes and explains the experiences of the first author, a psychiatrist treating sex-offenders on a daily basis, with this form of treatment.

Sexual offenses often are the result of a paraphilia and/or hypersexuality, in combination with an antisocial lifestyle. There are different forms of paraphilia, such as pedophilia, voyeurism or sexual sadism. The deviant sexual preference regularly gets the patient into trouble, and it causes victims to suffer its consequences. The sexual preference often is of an exclusive type, meaning that the patient is not capable to become sexually excited by other (non-deviant) sexual stimuli. Some patients, however, have a non-exclusive paraphilic sexual preference. In that case, the patient is, in addition to paraphilic behavior, also capable of normal sexual behavior, for example, with an adult, consenting partner. Not every sex-offender suffers from a paraphilia and/or hypersexuality. For example, a patient who rapes an adult woman can do this out of feelings of revenge, out of antisocial behavior (“I have the right to
have sex”) or out of a general tendency to cross boundaries combined with a general aggressive inclination. The lust for power can even be stronger than the lust for sex in these patients.

Sex-offenders thus form a heterogeneous group. The risk of repetition of the offense varies greatly per patient. This is sorted out in a risk assessment (De Vogel et al. 2004) that takes place separately for each patient. A patient with a high-risk profile requires a more intensive form of treatment (Bonta et al. 2007). Scientific research has identified protective factors that reduce the probability of recidivism. Prior to treatment, a careful inventory is made: to what extent are protective factors present and which improvements can be made with the help of a treatment? A newly developed instrument, the SAPROF (Structured Assessment of Protective Factors) can be used to make such an assessment (De Vogel et al. 2009).

**Treatment and Its Preparation**

Drug therapy is not the only therapeutic option for sex-offenders, and it is not a form of therapy that is used from the start of the treatment. Prior to treatment, careful diagnostics are carried out. All available information extracted from the criminal file is included. The statements of the victims and any witnesses often give valuable clues about the how and why of the actions of the sex-offender. From the reports of the interrogations of the patient the first indications of the existence or absence of a sexual disorder emerge. During the psychiatric and psychological examination of the patient, behavioral observations from the environment in which the patient lives are taken into account. Information is gathered from the social network of the patient as well. This creates an image of the type of offense, its frequency, and the possible use of violence and manipulation. A paraphilia, a deviant sexual preference such as pedophilia or sexual sadism, may be present. There may be hypersexuality: the patient is preoccupied with excessive sex. There can be mind-schemes with regard to sexuality that lower the threshold to an offense. An example of such a mind-scheme is the statement: “I have the right to have sex.” A sex-offender who has raped an adult woman may experience feelings of revenge or dominance. There may be a weakly functioning conscience, an antisocial lifestyle, a lack of impulse control or a lack of empathy.

When a major psychiatric disorder such as a psychotic disorder, a depression or an anxiety disorder is present, this will be the first focus of treatment. A tendency towards addiction or substance
abuse is often present as well. Substances such as alcohol and cocaine have a disinhibiting influence on behavior, especially on sexuality and aggression. Addiction deserves a prominent position in the treatment plan. Also when dementia, a learning disorder or autism is present, this has its consequences for the type of treatment that is applicable. The presence of these disorders can be considered as a “responsitivity factor.” When the therapist takes such responsitivity factors into account during treatment, the chances of success are better. Personality disorders are an important focus of attention during treatment.

The treatment of specific problems in sex-offenders starts with psychotherapy. A special type of psychotherapy, Cognitive Behavioral Therapy, yields the best results. This therapy makes use of a so-called Offense Scenario Procedure. The patient describes his behavior, thoughts and feelings in the hours before, during and after the committing of an offense. In the course of this descriptive process, the patient is constantly guided and critically challenged by his therapist. An important part is the identification of high-risk situations (like a swimming pool on a Saturday afternoon) which can act as the beginning of a pathway leading up to an offense. After the Offense Scenario Procedure has been followed, an Offense Relapse Prevention plan is made. This plan identifies which high-risk situations should be avoided and what to do when an inclination to sexual deviances surfaces. Which signs are indications that such a tendency is present? Which persons/institutions should be asked for assistance in such situations? A disadvantage of this way of dealing with the problems is that a lot of emphasis is put on “things not to do” and “staying out of trouble.” This disadvantage is tackled by adding another therapeutic approach. This is the Good Lives Model Therapy.

In Good Lives Model Therapy, also a form of Cognitive Behavioral Therapy, the patient makes a realistic, positive life plan (Siegert et al. 2007, Yates et al. 2010). The patient explores which skills he needs to acquire to be able to realize this plan. In addition, the patient examines his own pitfalls concerning behavior that might ruin the realization of his plan. In this way, the patient is taught to calculate and consider the benefits of his Good Life goals. Even patients with a defectively functioning conscience can benefit from this type of therapy. Giving up an antisocial lifestyle is difficult, but when achieved, it results in a significant reduction of recidivism risks. Sex education and information about a pro-social attitude towards women can increase the patient’s control of his behaviors.
Despite all these efforts, the regular evaluation of the relapse risks may show that the risk has remained high. In that case, a pharmaceutical intervention can be considered. Certain psychopharmaceuticals have sexual side effects that can be favorable in the treatment of sex-offenders. The serotonergic (SSRI) type of antidepressants gives a global inhibition of the processes that are involved in the realization of sexual activity. Anti-psychotics inhibit impulsiveness and the tendency to take sexual action. Some specific anti-psychotics generate a rise in the level of the hormone “prolactin,” which inhibits sexuality. If a patient, despite psychotherapeutic and other treatments, still presents a high recidivism risk, he can be eligible for additional drug treatment. Patients at high risk of relapse in a sexual offense and a paraphilia and/or hypersexuality are eligible for a treatment that reduces the availability of testosterone: ADT.
**Algorithm for the Pharmacological treatment of Sexual offenders when psychotherapy alone has insufficient (expected) efficacy**

**The Anti-Libidinal Effect of ADT**

**ADT Reduces the Availability of Testosterone**

The sensitivity to a particular sexual stimulus bears a strong relation with an individual’s sexual preference and the connection between stimulus and preference. When there is a link, the availability of testosterone in the brain is necessary to evoke a reaction of emotional “liking.” When, caused by medication, the availability of testosterone has declined relative to the starting value prior to treatment, the sensitivity to a sexual stimulus will be reduced. This effect will be stronger when the drop in testosterone availability is more considerable. Sexual stimuli are ubiquitous in everyday life. In case of a patient with pedophilia, the sight of a boy on the beach presents a sexual stimulus. A sexual thought can also act as a sexual stimulus. Because the medication reduces the sensitivity to sexual stimuli in...
the brain, the response to the stimuli will, however, be reduced; the level of sexual excitement will be lower. Furthermore, there will be a lower level of—or a lack of—sexual craving and less or no tendency to become sexually active.

Patients using ADT will thus be more in control of their behaviors when confronted with a stimulus that—before—could have led to sexual offending. By increasing the pro-social control of sexual behaviors and by committing oneself to a pro-social lifestyle, the patient will receive more respect from friends, family, employers and others. It is necessary that the patient agrees with the purpose of the treatment: preventing relapse into a sexual offense. This is important because, even despite a strong reduction in testosterone, for some a certain degree of sensitivity to sexual stimuli will remain. Thus adherence to the Relapse Prevention Plan, for instance by avoiding high-risk situations such as a swimming pool on a Saturday afternoon, remains necessary. If a patient with ADT treatment thus sets out to enter a high-risk situation, this may still create a considerable risk of recidivism (Briken et al. 2004). That is why the treatment of sex-offenders needs more than just an approach with the help of medication.

*Indications for ADT*

Within our institution, the Van der Hoeven Clinic (a forensic psychiatric hospital in the Netherlands), ADT is provided solely on a voluntary basis. Prior to starting this therapy, the patient is informed about the effects and possible side effects. Legally, however, the possibility of forced treatment exists when the risk within the institution cannot be averted in any other way. Some cases are known in which forced treatment was considered necessary and ADT was applied on a forced basis. ADT is suitable for patients with a paraphilia and/or hypersexuality who committed a serious sexual offense (see the treatment algorithm in Figure 8.1). In the attempts to define hypersexuality, initially, the number of orgasms (sexual outlet) per week during a period of at least half a year was the starting point. Frequencies between 7 and 10 times per week would depict hypersexuality. This principle is elaborated in the description of hypersexuality in the new version of the DSM, the DSM-V. This is the new (fifth) version of the Diagnostic and Statistical Manual of the American Psychiatric Association to be published in 2013. Hypersexuality will be a proposed diagnosis, published in the appendix of the DSM-V. Hypersexuality as an official diagnosis is expected to be included in the DSM-VI because of
the necessary field research studies confirming the validity of the concept that will be conducted in the years to come. A Hypersexual Disorder, as proposed to appear as a new classification in the appendix of DSM-V, is assessed by the following criteria:

a. Over a period of at least six months, recurrent and intense sexual fantasies, sexual urges, and sexual behavior in association with four of five specific relevant criteria.

b. There is clinically significant personal distress or impairment in social, occupational or other important areas of functioning associated with the frequency and intensity of these sexual fantasies, urges, and behavior.

c. These sexual fantasies, urges, and behavior are not due to direct physiological effects of exogenous substances (for example, drugs of abuse or medications) or to Manic Episodes.

d. The person is at least 18 years of age.

**The efficacy of anti-libidinal medication to reduce recidivism**

In a recent review on this topic, Thibaut et al. (2010) have concluded that the evidence for the therapeutic efficacy of psychopharmacological interventions (such as SSRI antidepressants) is shallow. The studies on ADT show a considerable efficacy but suffer from methodological difficulties because of the lack of double-blind research due to ethical considerations (Schmucker and Lösel 2008). In 2001, we started a follow-up on the 44 patients who committed a sexual offense from the total of 160 patients in our care. These 160 patients stayed in the clinic (100 inpatients), stayed in general psychiatric hospitals (20 patients) or lived in the city and its surroundings (40 patients). The 44 sex-offenders were all participating in Cognitive Behavioral Therapy.

Preliminary results of this ongoing study are that 22 of the 44 sex-offenders (50 percent) received ADT, 12 of the 44 sex-offenders (27 percent) received an anti-psychotic or antidepressant as the most important form of anti-libidinal medication, while 10 out of 44 sex-offenders (23 percent) used no medication. In 2008, the following percentage of the patients lived in a house in the city and its surroundings under our supervision: 8 (36 percent) of the 22 sex-offenders who were on ADT, four (33 percent) of the 12 sex-offenders who were on SSRI antidepressant or anti-psychotic medication and 3 (30 percent) of the 10 sex-offenders who were not using any type of medication. The recidivism rates during the follow-up until 2011 were the following: none of the 22 sex-offenders who were on
ADT, two patients of the 12 sex-offenders who were on SSRI antidepressant or anti-psychotic medication and one patient of the 10 sex-offenders who were not using any type of medication.

These results, although obtained from a small sample, seem to suggest a confirmation of the good results achieved elsewhere with ADT (Briken et al. 2003). However, our study has major methodological limitations. One of the most important of these is that the number of patients in this study is small. Therefore it was not possible to differentiate between the types of sex-offender. The favorable results of ADT seem to have a major impact on the way the patients who recently started a treatment in our clinic think about medication. These new patients generally talk a lot about the effects of the medication with the patients who already use anti-libidinal medication and do well in treatment. The latter initially had a high recidivism risk and achieved good results through hard work in psychotherapy and the use of ADT. Because of the resulting lower recidivism risk, these patients were permitted an accompanied leave and, later on, an unaccompanied leave. When things went well, they later accepted work outside the clinic, moved into a house in town and integrated in society, all steps under supervision. The discussion with new patients appears to enhance the motivation among them to start with ADT.

When there is a deviant sexual preference, this preference will not be changed by lowering the testosterone level. Treatment, psychotherapeutic as well as pharmacological, will enhance the patient’s control over his behaviors by reducing sensitivity to sexual cues. When there is a non-exclusive deviant preference, therapy can help the patient to withhold acting on pedophile urges, for instance by avoiding high-risk situations. Reducing the tendency to undertake sexual action with anti-libidinal medication can also help to avoid deviant behavior and limit sexual activity to consensual sex with an adult partner in patients with a non-exclusive sexual deviance. The paraphilia is thus not cured with medication. Nevertheless, it can help to control the effects of the mental disorder. When medication is stopped, the sensitivity to deviant sexual clues will return. It is possible that the effects of psychotherapeutic treatment will be sufficient to prevent recidivism, especially in mild cases. In such cases, it is important that an adequate risk assessment confirms a low risk of recidivism.

**Different Types of ADT and Their Side Effects**
Androgen deprivation can be reached in two different ways. One type of medication blocks the receptor for testosterone. Depending on the dosage of the medication, a larger or smaller percentage of the receptors is blocked. By varying the dosage, a smaller or larger influence on the level of sexuality will be achieved. Cyproterone acetate is a medicine that works in this way. Cyproterone can be applied either orally, as a pill (once a day), or intramuscularly through a depot injection (once every two weeks). The other type of medication acts on the endocrinological control of the testes by the brain (hypothalamus and pituitary). Medroxy Progesterone Acetate (MPA) reduces the testosterone level in the blood. MPA is administered as an intramuscular depot injection; its effect is dose-dependent. MPA is widely used in the United States because cyproterone acetate is not FDA-registered. The reason for this is that cyproterone has caused fatal liver function disorder in the past. Cyproterone also has a testosterone level reducing effect via its effect on the brain (besides its testosterone-receptor-blocking effect). This is because it is a progestagene substance (just like MPA).

If a patient, prior to drug treatment, has a testosterone level of 16 nmol/l, for example, treatment with MPA or cyproterone reduces this level to 3 to 7 nmol/l, depending on the dosage used. The normal testosterone in adult men is between 7 and 20 nmol/l. It is often thought by the general public that sex-offenders have a high testosterone level. Generally, however, testosterone levels in sex-offenders are within the normal range. Research on very violent sex-offenders found testosterone values that were slightly above the normal range. However, this was not replicated in subsequent investigations (Bradford and McLean 1984). If testosterone reduction is used as a treatment for sex-offenders, the goal is not to normalize the testosterone level. The goal of treatment is to achieve a testosterone value lower than the baseline level as measured prior to treatment. This will decrease the sensitivity to sexual stimuli. If the testosterone level declines, a man produces less estrogen. In men, testosterone is the only raw material for estrogen production. The resulting drop in estrogen production leads to mental and physical complaints. These are complaints that resemble climacteric complaints: mood swings with depressive complaints, sweat attacks (hot flushes) and osteoporosis. The decline in testosterone can reduce muscle mass and may cause complaints of fatigue. Using progestagene substances (resembling progesterone, the pregnancy-maintaining hormone) such as
cyproterone acetate or MPA can cause weight gain and breast enlargement (gynecomastia) as adverse side effects (Giltay and Gooren 2009).

If the effects of MPA or cyproterone acetate on sexuality and the recidivism risk are insufficient or if the expected effects are insufficient, one can use medication of the LHRH agonist type. These compounds are also known as Gonadotropin Releasing Hormone agonists (GnRH agonists). This concerns an intramuscular depot medication per injection that can be given once a month or once a quarter. Leuprolide and triptoreline are examples of this type of medication. In this way, the endocrine stimulation of the testes by hormones produced by the brain is practically absent. The only testosterone production left is in the adrenal glands. This involves small quantities resulting in a testosterone level of 0.5 to 1 nmol/l. These are values that are comparable to the testosterone levels in boys before they enter puberty. Surgical castration, used in the past, led to comparable low testosterone values due to the removal of the testes. This is the reason the general public often uses the term “chemical castration” for this type of medication. Because the testosterone decline during LHRH therapy is stronger than in the application of MPA and cyproterone, the probability that side effects occur is higher. The risk of breast enlargement is lower.

Regular medical checking is necessary to limit the consequences of negative side effects. To prevent osteoporosis, patients use calcium tablets, vitamin D and a bisphosphonate (Hoogeveen and Van der Veer 2008). Bone density measurement by DEXA scan take place at regular intervals. It will be clear that the application of ADT is a thorough and specialist medical treatment. Psychiatrists often work together with a physician and an endocrinologist. The psychiatrist supervising the treatment will constantly make comparative assessments of the desired effects and the burdens of adverse reactions that may occur. Patients frequently ask whether there is a possibility of reducing the dosage of the medication. When a patient has a desire to have sex with an approving adult partner, there will not be much resistance from the team that treats the patient. For a patient with hypersexuality or a patient with a non-exclusive paraphilic sexual preference, such a sexual desire can fit within a positive life plan. When such a patient starts a relationship with an adult partner, the treating psychiatrist, the psychotherapist, the social worker and the other team members at the clinic can consider a milder form of anti-libidinal medication. A transition from triptoreline (a LHRH type of medication) depot
medication to cyproterone injections can be considered. The cyproterone injections have a dose-dependent effect and if the risk profile allows it, the dosage of the injections can be adjusted on the basis of the desired level of sexuality. This is possible when the patient and his partner are transparent and reliable in reporting about their sexuality. If, for a situation in which the patient does not use any anti-libidinal medication, a risk assessment shows that the recidivism risk stays sufficiently low, this may lead to a decision by the psychiatrist and his treatment team to try to discontinue the medication.

**ADT and Freedom of Movement**

The general public as well as patients who are not yet informed about the possibilities of treatment often think that, once ADT is accepted, more freedom of movement will follow automatically. This is not how things work. If the recidivism risk remains high despite an intensive treatment (including drug treatment), the patient will not be permitted more freedom. In the Netherlands, this can finally lead to a decision to impose a mandatory stay in a ward for long-term living: a permanent care ward or a long-stay ward. Even then a judge will consider, every one or two years, whether it is necessary to prolong the execution of the TBS order in this form. Before an expansion of freedom of movement is allowed, a sufficiently lowered assessed risk level for recidivism should be reached. The use or non-use of medication is only one of the factors that determine the assessed risk. Another important factor is to what extent a patient complies with the agreements made. Abstinence from alcohol and drugs, as confirmed by negative urine controls, is also important. The patient should follow a relapse prevention plan and use it appropriately. Impulsiveness and aggression should be low and under control. The patient should show that he can maintain pro-social contacts, for example at work and during leisure time. The patient should have realistic plans for the future (Willis and Grace 2008). A psychologist who is well-acquainted with the situation of the patient but not directly involved in the treatment, will use validated risk assessment instruments. In the realization of the final risk assessment, the psychologist also uses the outcome of risk assessment instruments completed by group leaders and the head of treatment.

When the risk of re-offending is considered to be sufficiently low, the freedom of movement is added to step by step. At a certain point in time, the competent court may impose a conditional dismissal from the TBS. In the Netherlands, there is a long tradition regarding the use of conditions to
a suspended sanction, imposed by a court. One of the conditions may be that the patient must comply with the drug treatment prescribed by a psychiatrist. This may impel the sex-offender to comply with an anti-libidinal drug treatment, for example, through depot medication by intramuscular injections. If the patient does not comply with these conditions, he may be forced to return to the clinic.

**Is Anti-Libidinal Medication a Form of Incapacitation?**

If anti-libidinal medication is applied correctly, this can play an important role in reducing the recidivism risk among sex-offenders. When thinking of incapacitation, the image one obtains is that of eliminating any risk of recidivism. Even in case of a proper application, this result is not feasible with the help of ADT. A psychiatrist can start a procedure leading to the forced application of ADT in extreme situations. However, in our opinion, the indication or imposition of such an invasive treatment with its possibly serious adverse reactions does not belong to a court. Nevertheless, for example within the framework of conditions to a dismissal, courts may order that a patient remains under psychiatric treatment, and determine that the patient should comply with the treatment requirements of the psychiatrist. A so-called forensic psychiatric outpatient clinic offers good possibilities for such a treatment. The psychiatrist, however, will always follow his own judgment with regard to the decision whether to impose a treatment with drugs or not. As previously argued, there may be good reasons to prescribe a milder type of medication in due time. Sometimes even a discontinuation of medication may be indicated. But even when ADT is imposed, some escape routes may continue to exist, for example when the patient is able to obtain testosterone from illegal sources. Incapacitation thus cannot be considered to be complete in each and every situation.

It is thus open to debate whether ADT can be considered an adequate form of incapacitation. ADT does not eliminate all risks, and its application requires specific, professional psychiatric assessment. The court, in deciding about the continuation of the treatment, has to meet commonly accepted principles of subsidiarity and proportionality. The judge must also meet requirements of humanity regarding the treatment of sex-offenders, as long as it is compatible with a safe society. In our opinion, a court can meet these requirements when it decides to prolong the execution of the TBS order, as well as when it decides to conditionally dismiss offenders, by imposing forensic psychiatric treatment in an outpatient treatment facility. Yet, ADT should not be regarded as the one and only
treatment that, by means of a wide application, will free society from sex-offenders. It is a useful
treatment that may form an important part of an integral approach to lowering the opportunities of re-
offending by sex-offenders.

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