Eur Psychiatry 2002 ; 17 : 104-6

S0924933802006351/SCO

SHORT COMMUNICATION

Antihormonal treatment of paraphilic patients in German forensic psychiatric clinics

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(Received 5 October 2001; accepted 13 October 2001)

Summary – The aim of this study was to investigate which antihormonal treatment strategies are used in German forensic psychiatric institutions. Forensic clinics were asked about the number of treated patients. Four hundred seventy-four patients were committed for sex offences; 12% received either CPA ($n = 29$) or LHRH- agonists ($n = 29$). Differences in efficacy were small. Several side effects confirm the importance of a protocol for minimizing medical complications. © 2002 Éditions scientifiques et médicales Elsevier SAS

cyproterone acetate / forensic psychiatry / GnRH-agonists / LHRH-agonists / paraphilia

INTRODUCTION

Presently there are three general ways to treat abnormal sexual behavior: reduction of testosterone production, psychotropic drugs (e.g., SSRIs) and psychotherapy.

The steroids medroxyprogesterone acetate (MPA) and cyproterone acetate (CPA) have been in use for more than 30 years. MPA inhibits gonadotropin secretion and also reduces testosterone concentration [6, 8]. CPA acts as a progestogen and anti-androgen through receptor antagonism with dihydrotestosterone [6, 8]. Unfortunately, it has been shown that MPA und CPA are not reliable in reducing the testosterone level and therefore they gained inconstant results in the treatment of paraphilia [4, 5]. Because of a substantial number of side effects, including gynekomastia, weight gain and hepatocellular damage [6-8], there is a need for other effective substances with fewer severe side effects.

Experiences with luteinizing hormone-releasing hormone (LHRH) agonists during use in treatment of prostatic carcinoma have suggested that they might be also helpful in the treatment of sexual offenders. Most previous studies (for a review see [3]) of the effects in men with paraphilia have consisted of case reports [4, 5, 9, 10]. In 1998 in an open uncontrolled study Rösler and Witztum [7] treated 30 men with severe long-standing paraphilias with triptorelin for 8–42 months. Episodes of deviant sexual behaviour were reduced and the number of deviant sexual fantasies diminished during therapy. Minor side effects included persistent hot flashes, decreased growth of facial and body hair, asthenia and diffuse muscle pain. Bone mineral density decreased significantly in 11 of 18 men in whom this measurement was taken.

Our own study group described the results of 11 patients with severe paraphilias (pedophilia, sadomasochism) which were treated with the LHRH agonist leuprolide acetate in a period of 12 months [1, 2].

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Simultaneous to the first medication with leuprolide acetate we administered cyproterone acetate for the first 2 weeks, because of the expected increasing serum testosterone levels ('flare-up effect') [6]. The patients showed no tendency to sexually aggressive behaviour and reported an evident reduction of penile erection, ejaculation, masturbation, sexual deviant impulsiveness and phantasies. The mean baseline serum luteinizing hormone, follicle stimulating hormone and testosterone concentrations in all patients were normal; testosterone levels fell within the first 3 months down to castration levels. Side effects were depression, weight gain, and pain at the injection area. Patients who previously received CPA or SSRIs for a longer period reported a better efficacy under leuprolide acetate.

The aim of the present study was to investigate which antihormonal treatment strategies are currently used in German forensic psychiatric institutions.

METHODS

All 67 German forensic clinics were asked about the number of antihormonal-treated patients on one particular day (20 January 2001). Thirty-two clinics (48%) including 2070 patients answered. Reasons for not reporting included no male patients, no paraphilic patients, and one clinic wanted to inform us only after finishing their own study on this subject but reported the number of treated patients.

The questionnaire we used assessed diagnoses, reasons for commitment, duration, efficacy, and side effects of the antihormonal treatment. Only in case of treatment with CPA or LHRH-agonists the questionnaire had to be answered by the doctor responsible. To assess efficacy five possible answering categories were given: reduction of sexual activity (1) and sexual fantasies (2); no difference to baseline (3); increase of fantasies (4); and sexual activity (5). Main side effects (weight gain, loss of body hair, osteoporosis, thromboembolia, hypopituitarism, gynecomastia, fatigue, depressions, allergic reactions, hot flashes, others) [6] were listed and could be checked.

RESULTS

Twenty-three percent (n = 474) of the patients were committed to the institution for sex offences. Twelve percent (n = 58) of these patients received CPA (n = 29) or LHRH- agonists (n = 29). Mean age was 38 years (CPA patients, 42.2 years; LHRH-agonist patients, 33.6 years). Offences were rated: child abuse (27/47%), rape (18/31%), exhibitionism and fetishism (4/7%), homicide and attempted homicide (4/7%). The main diagnostic groups (multiple answers possible) were paraphilias such pedophilia (16/28%), sadomasochism (3/5%), exhibitionism, fetishism and voyeurism (5/9%), multiple (2/3%) and other non-specificed forms of paraphilias (2/3%). Personality disorders were reported as a second diagnosis (26/45%), especially the dissocial personality disorder (7/12%), borderline disorder (5/9%), single cases of narcissistic disorder, and combinations. Twenty-four (41%) patients were mentally retarded (half of them slightly) and eight (14%) addicted to alcohol.

Duration of treatment with CPA was 22.6 months and with LHRH-agonists 10.3 months. Of 29 LHRHagonist-treated patients, in only 19 cases was information about treatment response available (the other patients took part in a study). As LHRH-agonists leuprolide acetate (n = 11), gosereline acetate (n = 5) and triptorelin (n = 3) were used.

Table I shows that there were only small differences between CPA (more reduction of sexual activity) and LHRH (more reduction of fantasies) in efficacy regarding sexual deviance. No effect was reported in three cases of each group (CPA group: 10%; LHRH group: 17%) and an increase of sexual fantasies was pointed out in one case. Two patients had previously been treated with CPA and received LHRH-agonists afterwards because of insufficient reduction of sexual aggressive impulsiveness under CPA. After the new medication the intensity of sexual desire and symptoms was noticeably reduced. No patient who has been medicated with an LHRH-agonist later received CPA.

Probably the most severe side effect that occurred during treatment with CPA was a case of thromboembolia. Allergic reactions, cases of osteoporosis and side effects on the cardiovascular status or hepatocellular damages were not reported.

DISCUSSION

Results show that both CPA and LHRH-agonists are helpful in reducing libido in sexual offenders. There seems to be a need for alternative substances to CPA. This is pointed out by the fact that half of the investigated patients already receive LHRH-agonists, although they are not yet officially listed for this indication in Germany. The difference in the mean age and duration of treatment of the CPA and the LHRH group could be

Table I. Efficacy and side effects for CPA and LHRH-agonists.

Variables	*CPA (n = 29)*		*LHRH (n = 19)*	
	n	%	n	%
Efficacy				
reduction of deviant sexual actions	22	76	12	67
reduction of deviant sexual fantasies	15	52	11	61
no effect	3	10	3	17
increase of deviant sexual fantasies	1	3	–	–
Main side effects				
weight gain	14	48	4	21
gynekomastia	10	35	4	21
decreased hair	4	14	–	–
blood pressure changes	–	–	2	11
hot flashes	2	7	4	21
decreased bone mineral density	–	–	1	5
depression	2	7	–	–
thromboembolia	1	3	–	–
hypogonadism	1	3	1	5
lethargy	3	10	4	21

explained as a result of the more common use of LHRH-agonists since there have been more publications at the end of the 1990s [3].

Several side effects were reported for both groups and confirm the importance of a protocol for minimizing medical complications under the use of both drugs [6]. The results of former studies which supposed fewer side effects for LHRH-agonists [1, 2] could not be confirmed by the data of the present investigation. While under CPA there were more side effects like weight gain and gynekomastia, LHRH-treated patients more often showed hot flashes and lethargy. One severe case of thromboembolia occurred under CPA. Continuous therapy with LHRH-agonists may cause loss of bone mineral density [6], which probably could be prevented by the concomitant administration of calcium (1500 mg daily) and vitamin D (600–800 IU daily) or a biphosphonate drug [7]. The duration of treatment in the group investigated here was too short to answer this point. Because osteoporosis often remains asymptomatic until a fracture occurs a bone-density scan should be performed prior to treatment and every year thereafter [6, 7].

Leuprolide acetate is available in long-acting monthly or 3-monthly injection forms, which may be an advantage considering compliance. CPA has to be administered in oral doses of 100–600 mg, or doses of 400–700 mg weekly for im injection.

CONCLUSIONS

Although not listed for treatment of paraphilia in Germany LHRH-agonists are already prescribed in half of the antihormonal-treated forensic patients. LHRH-agonists seem to be a promising alternative to CPA and medical complications could be prevented by differentiated indication, screening tests and scheduled testing during use. There is a need for further investigations to compare CPA and LHRH-agonists.

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