Case Report / Olgu Sunumu
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Can Prevention of Erection with Sulpride be a Way to Increase Success in Hypospadias Surgery? A Case Report

Sülprid ile Ereksiyonun Önlenmesi Hipospadias Cerrahisinde Başarıyı Artırmanın Bir Yolu Olabilir mi? Bir Olgu Sunumu

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ABSTRACT

Hypospadias is treated surgically and different methods can useable for this way. Due to involuntary erections during adolescence and later, neourethra seems at risk until wound healing is complete. Erections following penile surgery are painful and can affect the healing process negatively, because the stitches may not withstand a strong erection. Therefore, prevention of erection and management of pain are extremely important after the hypospadias surgery; especially in adolescents. Preventing erection may increase the chance of success from surgery. Short-term use of antipsychotics may be beneficial to prevent erection. In this case report, the use of sulpride in an eighteen-year-old patient after hypospadias repair and the effect of this treatment on the results of the surgery was presented.
Keywords: Sulpride; hypospadias; erection prevention; adolescent.

ÖZ

Hipospadias cerrahi olarak tedavi edilmekte ve cerrahide farklı yöntemler kullanılabilmektedir. Ergenlik döneminde ve daha sonra erişkinlikte meydana gelen istem dışı ereksiyonlar nedeniyle yeni oluşturulan üretra yara iyileşmesi tamamlanana kadar risk altındadır. Penis ameliyatı sonrası oluşan ereksiyonlar ağrılıdır ve dikişlerin dayanıklılığını azaltması nedeniyle iyileşme sürecini olumsuz şekilde etkileyebilir. Bu nedenle, özellikle ergenlik döneminde, hipospadias cerrahisinden sonra sertleşmenin önlenmesi ve ağrı yönetimi son derece önemlidir. Ereksiyonun önlenmesi ameliyattan elde edilecek başarı şansını artırabilir. Antipsikotiklerin kısa süreli kullanımı ereksiyonu önlemek için faydalı olabilir. Bu olgu sunumunda on sekiz yaşındaki bir hastada hipospadias onarımı sonrası sülprid kullanımı ve bu tedavinin ameliyatın sonuçlarına olan etkisi sunulmaktadır.
Anahtar kelimeler: Sülprid; hipospadias; ereksiyon önlenmesi; ergenlik.

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INTRODUCTION

Hypospadias is a congenital disease of the penis and urethra occurring when the distal urethra cannot complete its development normally and the urethral meatus can be observed anywhere between the perineum and the glans (1). Its incidence is reported as 1:300 (2). Hypospadias is not an isolated anomaly, however is associated with urological, sexual, physiological and psychiatric problems.

Hypospadias is treated surgically and different methods can be used. The aim of the surgery is to create a functional and aesthetically acceptable new urethra. The most common complications of the surgery are urethral stenosis and urethrocutaneous fistula (2-4).

Due to involuntary erections during adolescence and later, neourethra is at risk until wound healing is completed. Erections following penile surgery can be painful

and affect the healing process negatively. Therefore, prevention of erection and management of pain are extremely important issues after the repair of hypospadias; especially in adolescents (2-4). Preventing erection may increase the chance of success from surgery.

Artificial erection may be required for fixation of the cordial during the operation, but erection which will develop during and after the operation will both increase risks of bleeding and the reopening of the suture line.

In this case report, prevention of erection with sulpride after surgery in an 18-year-old hypospadias case will be presented.

CASE REPORT

An eighteen year old male patient who has been operated for acute appendicitis and right inguinal hernia previously has also experienced two unsuccessful operations due to mid penile hypospadias. During early postoperative period, the sutures in the neourethra completely opened due to erections and the operation site was degenerated.

The patient had undergone psychiatric examination before surgery and there wasn't any findings of psychopathology. A motivational interview was held to resolve the patient's uncertainties over his reservations and fears about the surgery. The patient was informed about psychotropic drugs to be given in order to prevent postoperative erection. Hypospadias operation has been successfully completed with the Warren Snodgrass technique.

The patient started to take sulpride, a second generation antipsychotic, at a dose of 50 milligrams per day (mg/d) right after the operation. During the follow-up, he had two erections, once in the post-op first day and the second one in fourth day. Because the nocturnal penile tumescence test was not available in our center, the number of erections was evaluated taking into account the statements of the ward nurse, patient's relatives and the patient. Erection quality was evaluated based on the patient's statement. The patient was asked to give 10 points for the strongest erection and 1 point for the weakest. He gave scores to both erections' qualities between 4 and 5. It was evaluated that the duration of erections lasted a maximum of one minute. Sulpiride was continued for 15 days postoperatively. The urinary catheter was removed ten days after the surgery. It was observed that the patient showed a complete recovery on the surgical site. No complications were detected in the postoperative twentieth day and after second month controls. No urethral stricture or fistula was detected. The patient did not describe any voiding or sexual dysfunction. When EMG assisted uroflowmetry applied, it was revealed that voiding calibration and curve were both normal and there seemed to be no residual urine in the bladder.

DISCUSSION

Hypospadias is an extremely sensitive condition for children and families. It affects both the patient and their relatives not only physically but also psychologically. It is aimed to prevent physical and psychological problems that may occur by diagnosing and treating the disease in early childhood. Both physical and psychological problems can be experienced especially in patients who are operated after puberty. In this case, as well, hypospadias negatively affected adolescent identity acquisition. However, previous negative surgery attempts caused the patient to have prejudices that he could not improve. This influence has been evaluated as a psychological effect in accordance with the literature (2). The therapeutic interview was conducted with the patient regarding his concerns about the surgery and postoperative expectations.

One of the factors that worries the physician after the surgery is the pain experienced by the patient. To our knowledge, acute pain is a phenomenon that can be strongly triggered by emotional elements such as fear, anxiety, or depression and previous pain experience (5). In this context, medical treatments that will relieve anxiety and calm the patient should also be considered. In fact, it will be appropriate to provide evaluation by a psychiatrist in terms of ruling out any psychiatric disorders before surgery. If necessary, the management or treatment of anxiety should be planned.

There are many studies about the follow-up of post-operative erectile and sexual functions (6,7). Some factors such as the surgery technique, development of complications and wound healing were found to be effective on erectile function (8,9). Generally, erectile dysfunction is more common in these patients than normal population (10). Erectile function and one's sex life depend not only on a functional penis and hormones, but also on psychosocial factors (11). For this reason, the future sexual experiences of the individual may be negatively affected after an unsuccessful operation.

Due to involuntary erections, it becomes difficult to maintain the suture line and control bleeding in the early postoperative period. For this reason, it is important to secure the suture line and reduce bleeding by preventing erection during the first ten days when the incision is expected to heal. There are very few studies related to the prevention of involuntary erection after the operation. These few studies are mostly related to anesthetic techniques and drugs that have been shown to prevent postoperative erection (12,13).

In general, many different drugs are known to inhibit sexual functions. Antidepressants, antipsychotics, anxiolytics and mood stabilizers particularly act on sexual function through various mechanisms in the central nervous system. Postoperative use of psychotropic drugs can be considered in this context.

As defined by Kaplan (14), sexual activity consists of three phases: the desire, the arousal, and the orgasm. Drugs affect these phases in different sizes and ways. According to Stahl (15), neurotransmitters show different mechanisms of action on the three phases of the human sexual response cycle. In the first phase (desire), dopamine (DA), melanocortin, testosterone and estrogen show positive effects, while prolactin and serotonin (5HT) have a negative effect. The second stage, arousal, is associated with erection in men and lubrication of vagina in women. Various neurotransmitters facilitate sexual arousal, including nitric oxide (NO), norepinephrine (NE), melanocortin, testosterone, estrogen, acetylcholine (Ach), and dopamine. While dopamine and nitric oxide have a weak positive effect on the third stage (orgasm) -which is associated with ejaculation in men- this stage is inhibited by serotonin and facilitated by norepinephrine (15).

The pharmacodynamic effects of different antidepressants varies, suggesting that multiple receptor systems play a

role in the etiology of sexual dysfunction. In general, the inhibitory effect on erection occurs particularly through the activation of serotonine 5HT2 receptors (15). Other inhibitory mechanisms of erection and libido includes the effects via blockade of noradrenergic α-1, anticholinergic, antihistaminergic, anitidopaminergic receptors and increased prolactin levels (15-17). An inhibitory effect of nitric oxide synthase has also been hypothesized (18). Possible mechanisms of psychotropic drug induced sexual dysfunction are as follow, pharmacological effect (19,20):

- Cholinergic blockade
- α1-adrenergic blockade
- Hyperprolactinemia
- Inhibition of serotonin reuptake (Indirect stimulation of 5-HT2 receptors)
- Antihistaminergic effect
- Antidopaminergic effect in mesolimbic areas
- Antidopaminergic and antinoradrenergic effect in medulla spinalis
- Decrease in NO as a result of NO synthetase inhibition
- Increase in opioid levels
- Increase in cortisol levels

Sexual dysfunction rates in meta-analysis studies are as follows: for moclobemide and agomelatine 4%, bupropion 10%, mirtazapine 24%, fluvoxamine 26%, escitalopram 37%, duloxetine 42%, imipramine 44%, fluoxetine 70%, paroxetine 71%, citalopram 79%, venlafaxine and sertraline 80% (21). It should be kept in mind that priapism may occur as a rare side effect of sertraline (22).

Adverse reactions of sexual function caused by antipsychotics are generally in inhibitory nature and depend on their effects on all phases of the sexual response cycle. These effects include decreased sexual desire (libido), difficulty in erection, orgasm and sexual satisfaction (23). We can say that all antipsychotics are associated with decreased sexual desire due to their antidopaminergic nature. In agents that show partial agonism to dopamine such as aripiprazole and agents with atypical antipsychotic properties, sexual reluctance will not be as much as the negative symptoms we expect to see as a side effect in typical antipsychotics (24).

However, most antipsychotic agents with typical properties (i.e. chlorpromazine, pimozide, thioridazine, sulpiride) cause erectile dysfunction. Another point that should not be forgotten is that all antipsychotics can cause priapism. In some case reports, it was reported that priapism can also be observed with aripiprazole, clozapine, quetiapine, risperidone and ziprasidone (25). However, it appears as a more frequently expected side effect with agents such as pimozide (26).

In a study conducted by Dossenbach et al. (27) with 3838 patients, it was observed that sexual problems were common among all patients taking antipsychotics, but kind of the drug used did not make a significant difference.

Sulpride, like a typical antipsychotic, is known to act with postsynaptic D2 blockade at high doses. In this case, it was assumed that it prevented erection via antidopaminergic pathways. While high doses cause behavioral changes that predict antipsychotic effect in laboratory tests, it has been shown that they do not cause catalepsy, in other words, they have a low tendency to cause extrapyramidal side effects (28).

CONCLUSION

Although our patient had been operated twice with the same surgical technique, the suture line was completely opened in the early postoperative period due to involuntary erections resulting in an unsuccessful outcome. In the last operation, the involuntary erections had been reduced with medication, so the incision line could heal completely and the neourethra was formed without any complications.

The use of sulpride, especially after late operations such as post pubertal period, is a method that can increase the success rate of the surgery. Further studies related to this subject are needed.

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