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IMPROVEMENT OF RECONSTRUCTIVE PLASTIC SURGERY FOR TOTAL AND SUBTOTAL FORMS OF EPISPADIAS IN CHILDREN

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Abstract: Within 1995-2022 in the clinic were admitted 71 patients with subtotal form of epispadias. In 39 sick persons provided sphincteroplasty by Dershavin and saturing of borders of pubis symphysis. Percentage of partial and complete removal of enuresis accounted for 72.3%, diastasis of pubis symphysis was preserved. In 32 patients modification of sphincteroplasty new method of removal of symphysis diastasis. Well and satisfactory outcomes accounted for 90.6% of patients.
Keywords: epispadias, exstrophy, cystoplasty, sphincteroplasty.

INTRODUCTION

In recent years, the interest of specialists in the problems of urinary incontinence in severe forms of epispadias has increased, since the number of patients with these malformations increases over the years. In this group of patients with age, not only morphological and functional disorders of the genitourinary system, but also in other organs and systems are aggravated. Despite the urgency of the problem, the literature available to us does not cover the issues of epispadias, combined with exstrophy of the bladder and accompanied by total urinary incontinence (I.A.Akhmedzhanov 1991; Yu.B.Ulliev 1992; Zh.B.Beknazarov et all., 1994; R Stein et all., 1997; W.Richard et all., 1999; Sh.T.Salimov et all., 2001). The few works available mainly deal with the problems of urethroplasty in congenital malformations of the urethra (Zh.B.Beknazarov, 1994; A.Z.Fakirov, 2004; R.Stein et all., 1997; Sh.T.Salimov et all., 2000).

It is known that with total and subtotal forms of epispadias, as well as after the elimination of bladder exstrophy, patients suffer from total urinary incontinence. Sometimes such children are unsuccessfully operated on several times. Due to the failure to eliminate urinary incontinence, some children undergo a forced palliative operation - ureterosigmoidostomy in various modifications (I.A.Akhmedzhanov, 1991; Yu.B.Ulliev, 1992; Zh.B.Beknazarov et all., 1994; R.Stein et all., 1997; W.Richard et all., 1999).

The quality of life in patients after ureterosigmoid anastomosis remains unsatisfactory. Because of the ascending infection, and also as a result of absorption through the hemorrhoidal plexus of the rectum of urinary toxic products, such as urea, uric acid, creatinine, over time, patients develop first renal, then multiple organ failure. The 5-year survival rate after Michelson ureterosigmoidostomy is 60%, and the 10-year survival rate is only 40% (Jacob Ben-Haim, 2008; R.Stein et all., 1999).

Due to the divergence of the symphysis in patients with a total form of epispadias, as well as with exstrophy of the bladder, a “duck gait” and posture disorders are observed. eruption of the sutures of the diastasis of the symphysis resumes. Sphincteroplasty according to Derzhavin, according to the author, gives satisfactory results in 75.0% of cases. The problem remains the age of the child for optimal surgical treatment, as well as the method and technique of surgical intervention for various degrees of defect. All this emphasizes the urgency of this problem.

Purpose of the study: to improve the results of treatment of sick children with epispadias ins in combination with exstrophy, accompanied by total urinary incontinence by modifying sphincteroplasty and developing a new method for eliminating diastasis of the symphysis. To achieve this goal, we have set ourselves the following tasks:

1. To analyze the results of traditional methods of treatment in children with these malformations.
2. Based on the results of treatment, improve the method of bringing the pubic bone apart in children closer together.
3. Improve the results of sphincteroplasty by modifying the Derzhavin operation.

Material and methods. From 1995-2022, 71 patients with severe forms of epispadias in combination with bladder exstrophy were treated in our clinic. Of these, 63 (88.7%) were boys and 8 (11.3%) girls. Of this group of patients, there were up to 1 year 5 (7.0%), from 1 to 3 years 19 (26.7%), from 3 to 7 years 36 (50.8%), from 7 to 11 years 11 (15 ,5%). The admitted patients were divided into 2 groups; control, which was admitted to the clinic from 1990 to 2001 (39 patients), and the main one admitted from 2001 to 2008 (32 patients)

Research results. Patients admitted from 1995 to 2006 were treated in the traditional way - sphincteroplasty according to Derzhavin and suturing the edges of the diastasis symphysis with nylon No. 2, No. 3. Of these, 8 patients with subtotal form (20.5%), total 25 (64.1%) and a combination total epispadias with bladder exstrophy 6 (15.4%). In 6 out of 39 patients (15.4%), a combination of total epispadias with exstrophy of the bladder was detected; therefore, cystoplasty according to Bairov was performed in this group of patients in advance. After the operation, suture divergence was observed in 2 (5.1%) patients, later these patients were subjected to a ureterosigmoid anastomosis according to Mathisen in the modification of Yu.B.Ulliev. One patient from this group died a year later due to an ascending infection. In the remaining 33 patients, sphincteroplasty according to Derzhavin was performed using the traditional method. After sphincteroplasty, diastasis of the symphysis was eliminated in all patients by bringing the edges of the parted symphysis closer together and stitching No. 2, No. 3 with nylon or silk. The immediate results of the operation in the control group showed that in 18 patients (54.5%) complete urinary incontinence was eliminated, in 6 patients (18.1%) it was partially eliminated. In 9 cases (27.3%), urinary incontinence could not be eliminated. Good and satisfactory results of operations were 72.3% of 39 patients.

Two months after the operation, all patients underwent radiography of the pelvic ring bone in direct projection. On the X-ray, due to the divergence of the pubic bone sutures, 32 (82.0%) had diastasis within 2-4 cm, which negatively affected the posture, gait and appearance of the penis. Due to unsatisfactory results, we decided to improve the complex of surgical interventions aimed at improving the results of operations. From 2006 to 2022, 32 patients with severe and combined forms of epispadias were admitted.Patients, depending on the malformation, were distributed as follows: subtotal form 11 (34.4%), total form 17 (53.1%) and a combination of total epispadias with bladder exstrophy 4 (12.5%).

In this group of patients, we used a modified form of sphincteroplasty according to Derzhavin and a method we developed for bringing the pubic bone closer together. The technique of the operation is as follows: the patient is placed on the operating table in a supine position with lowered legs. The hips are bred, a roller is placed under the lumbosacral region. In boys, the skin of the foreskin is pierced with a silk thread, for which the penis is pulled down. A suprapubic skin incision is made 6 to 8 cm long. The rectus and pyramidal abdominal muscles are bluntly separated along the midline above the pubis, after which the anterior wall of the bladder is exposed. The anterior surface of the bladder is exposed upward along the peritoneal fold. After that, in a blunt way, the maximum allocation of the lateral surface of the neck and the lower half of the bladder to the zone of attachment to the back of the rectum is made.A vesico-urethral double-lumen catheter is introduced into the bladder using the vesico venipuncture method. Next to the nodal and nylon sutures running from top to bottom along the midline, a longitudinal section of the anterior wall of the bladder and its neck up to 3 cm wide is immersed inward.

The sutures begin to be applied just below the peritoneal fold, the intervals between them are up to 1 cm. The tissues of the bladder are captured with a needle from both sides quite widely, however, care must be taken not to pierce the mucous membrane of the bladder. As a result of this series of sutures, the submucosal gap of the anterior wall of the bladder and neck is sutured for 6-7 cm. Then a second row of similar sutures is applied, the purpose of which is to bring together the edges of the lower half of the bladder triangle. Each of the sutures captures the anterior-lateral surfaces of the lower half of the bladder and the neck on both sides. After the second row of sutures is applied, the line of the first row is completely immersed inward.

The second row of sutures should achieve a tight coverage of the catheter throughout. Then, 3-4 sutures are placed longitudinally, that is, parallel to the catheter, the purpose of which is to create a knee in the region of the bladder neck, the angle of which is 110-120 degrees. After that, the medial edges of the obturator foramen are exposed, through which a sterile fishing line with a diameter of 0.5-1.0 mm is passed, depending on the age of the child, wrapped 3-4 times around the ramus inferior ossis pubis and tied along the midline in such a way that the diastasis is tightly approached pubic bone.

After that, they began to create the urethra, using the method of one-stage orthonet urethroplasty proposed by Sh.T.Salimov, A.Z.Fakirov in 2004 (author's certificate No. 249 dated 12/29/1995). In the postoperative period, the bladder cavity

and neourethra are constantly washed through the catheter with a 0.1% solution of Miramistin. To stimulate regeneration, mumiyo was administered orally 0.2 twice a day for 20 days, methyluracil 500 mg 3 times after meals for a month. Accordingly, vilaminotherapy and phytotherapy were prescribed. The vesicourethral catheter was removed on the 10th day after the operation. When creating an angle of the bladder neck of 110-120 degrees, we adhered to the following rules; when creating an angle of 90-100 degrees, patients develop dysuria or postrenal anuria, the cause of which is an increase in the resistance of the newly created bladder neck. With this option, detrusion of the reconstructed bladder cannot provide enough pressure to ensure a normal urine stream. When creating an angle of 140-150 degrees, the resistance of the bladder neck does not change, as a result of which this reconstruction does not noticeably affect urinary retention. Therefore, through experimental experience and logical thinking, we came to this conclusion.

Discussion. Immediate results after the improved method of treating defects showed that in 19 patients (59.4%) the effect was good, in 10 patients (31.2%) it was satisfactory, in 3 patients 9.4% it was unsatisfactory. Thus, thanks to the improvement of surgical intervention, it was possible to eliminate urinary incontinence in 29 patients (90.6%). On the radiograph performed 2 months after the operation, the discrepancy of the pubic bone was not observed in any patient, which had a positive effect on the posture of the patients. The size of the penis in this group of patients was closer to normal than in the control group. In patients treated by the traditional method, the percentage of good and satisfactory results was lower by 18.3% than in the main group. On the voiding cystogram, performed 6 months after the operation, the angle of the bladder neck remains within 120 degrees. Deformities and stenoses of the newly created bladder neck and urethra are not marked.

CONCLUSION

1. When using the traditional method of treatment, good results are equal to (54.5%), and satisfactory results (18.1%) In 27.3%, urinary incontinence cannot be eliminated. Good and satisfactory results of operations were 72.3% of 39 patients. On the X-ray image, due to the divergence of the pubic bone sutures, 32 (82.0%) retained diastasis within 2-4 cm, which negatively affected posture, gait and external the form of a penis.

2. Immediate results after the improved method of treating defects showed that in 19 patients (59.4%) the effect was good, in 10 patients (31.2%) it was satisfactory, in 3 patients 9.4% it was unsatisfactory. Thus, thanks to the improvement of surgical intervention, it was possible to eliminate urinary incontinence in 29 patients (90.6%). On the radiograph performed 2 months after the operation, the discrepancy of the pubic bone was not observed in any patient, which had a positive effect on the posture of the patients. The size of the penis in this group of patients was closer to normal than in the control group.

3. A comparative analysis showed that the improved method leads to an improvement in the efficiency of the operation, reduces the percentage of relapses and shortens bed days.

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