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Research Article

**ASSESSMENT OF THE RESULT OF THE SNODGRASS
REPAIR IN HYPOSPADIAS IN COMPARISON TO
BRACKA'S STAGE II OPERATION**¹Dr Jawaria Majeed, ²Dr Anwaar Inayat, ³Dr Mahpara Safdar¹Nishtar Medical University and Hospital, Multan²Nishtar Medical University and Hospital, Multan³Amna Inayat Medical College, Sheikhpura

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Abstract:

Background: Great progress has been made in hypospadias repair surgery. Proximal hypospadias remain the biggest challenge; despite many innovations and great progress, surgery may fail. The purpose of this study was to evaluate the result of repairing Snodgrass in the hypospadias in our hand and at the same time identify cases that did not fit this procedure.

Place and Duration: In the Surgical Unit-I of Nishtar Hospital Multan for one year duration from February 2019 to February 2020.

Materials and methods: 60 patients with proximal, coronary and sub-coronal hypospadias were surgically operated. Snodgrass repair was performed in 30 cases (11 coronal and 19 sub-coronal), while Bracka Stage II was used in 30 cases (26 proximal and 4 sub-crown). All cases in Bracka Stage II group whose chordee has been corrected with preputial skin graft. The second stage of urethroplasty was done at least 6 months after the first stage.

Results: Thirty patients (50%) had normal meatal position, correct glanular anatomy, well defined coronal sulcus, and normal cylindrical shaft and voided from the tip with very good cosmetic and functional results, ten patients (16.6%) developed meatal stenosis, nineteen patients (31.6%) urethrocutaneous fistula, eleven patients (18.3%) developed wound infection, four patients (6.6%) developed stricture.

Conclusion: Snodgrass repair offers optimal repair of the distal as well as mid-shaft hypospadiac defect with a low complication rate and an excellent cosmetic result. Staged implementation is a safe and reliable approach in selected patients in whom the urethral plaque cannot be included in the repair, and therefore requires replacement.

Key words: Snodgrass repair, Bracke repair, hypospadias, muscle stenosis

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INTRODUCTION:

There has been great progress in surgery to correct hypospadias. Many techniques have evolved over the past 150 years to build a hypospadias. Hypospadias reported are 1/300 male births. Many methods of repairing hypospadias suggest that no method is generally satisfactory. Existing concepts of hypospadias pathophysiology that emphasize urethral plaque protection have brought hypospadias surgery closer to the functionally and cosmetically normally reconstructed penis goal over the past decade. Snodgrass repair has become the preferred procedure for repairing distal and proximal hypospadias due to the low rate of complications and excellent cosmetic results. Because encouraging results have been reported in many centers around the world, few local studies have been conducted to evaluate this technique. In addition, long-term data on the lamellar urethroplasty procedure are still missing for the final assessment. Therefore, comprehensive and rigorous Snodgrass repair analysis is needed to determine if this technique can withstand the passage of time. On the other hand, an alternative technique popularized by the British surgeon Bracka completely ignores the behavior of the natural urethral plaque and replaces the entire urethral plaque with hypoplastic routine vaccination. It has also gained popularity and several complications have been reported.

PATIENTS AND METHODS:

This study was held in the Surgical Unit-I of Nishtar Hospital Multan for one year duration from February 2019 to February 2020. Sixty patients with middle and distal hypospadias (coronal and subcortical) underwent surgery. The surgical method chosen for the repair of hypospadias was determined on the basis of the state of the urethral plaque, the degree of chord, the shape of the acorn, the size of the phallus. Patients with a mild to moderate chord (30 cases) were selected for prolonged repair at Bracki stage, and 30 patients with a mild chord corrected by simple degumming to repair Snodgrass. Demographic data, type of hypospadias and the final result of hypospadias surgery were recorded. Parents received information about the diagnosis, treatment plan; risk, complications and long-term follow-up plan. Urinary catheters were maintained for 7 to 10 days after surgery, and the muscle was assessed 10 days after catheter removal, calibrated and re-tested in series to maintain its caliber. Patients were followed after two weeks, three months, six-month and one year interval after surgery.

Hypospadias repair protocol: Snodgrass repair (30 cases): If the urethral plaque is reasonable and of good quality and the abdominal curvature can be corrected without cutting the urethral plaque (preservation of the urethral plaque after releasing the chord). One-stage repair of Snodgrass (30 cases Fig. 1)

Brack II stage (30 cases), phallus is small, short and trapped urethral plaque can contribute to curvature and should be cut. The first stage: is the preparatory stage for the reconstruction of the urethra and involves the correction of the chord, cutting the acorn to form a gutter lined by premature transplantation. Second stage Control: tubular transplantation prematurely after at least 6 months.

RESULTS:

The study included a total of sixty patients, thirty patients who underwent the Snodgrass technique, and thirty patients using Bracki's second stage repairs. These patients were followed up to six months and post-surgery complications were noted. The mean age after surgery was 7.63 ± 3.09 years in the Bracka II group and 6.36 ± 3.05 in the Snodgrass group in the age range of 1 to 12 years. At the location of the lobe we divided patients into groups of the middle and distal (coronal and sub-crown) shafts. In the Bracka II group, 26 (86.6%) patients had a middle shaft and 4 (13.33%) patients had distal (sub-coronal) hypospadias. In the grass grass group, 11 (36.66%) patients had coronary artery disease and 19 (63.33%) had distal shaft ischemia. All patients from the 2nd grade Bracka group whose string was corrected by premature transplant, while the very minimal string in the Snodgrass group, which was corrected after degreasing the skin for penoscrotal connection.

An interesting fact observed in this study was that in the Bracka II group 8 patients (26.6%) had more than one complication, while only 3 (10%) patients in the Snodgrass group had more than one complication at a time. Complications were reported in 18 (60%) of 30 patients in the Bracka II group, while in 12 (40%) of 30 patients in the Snodgrass group (Table 1). Although complications were more frequently observed in the Bracka II group, but they were not statistically significant because the P value was greater than 0.05. Muscle stenosis was found in 6 (20%) patients in the Bracka II group and 4 (13.3%) in the Snodgrass group (Fig. 1). Twelve (40%) patients in the Bracka II group and 7 (23%) in the Snod-grass group developed a urethral cuticle, of which two patients also had muscle stenosis in the

Bracka II group, while none of the patients in the Snodgrass group had compound muscle stenosis.

Table 1: Complications in Bracka Stage II & Snodgrass Procedure

Group of Pts		Complications		
		Yes	No	Total
Bracka II	Count	18	12	30
	% with in groups of Pt	60%	40%	100%
Snodgrass	Count	12	18	30
	% with in groups of Pt	40%	60%	100%
Total	Count	30%	30%	60%
	% with in groups of Pt	50%	50%	100%

After surgery, 8 (26.7%) patients in the Bracka II group and 3 (10%) patients in the Snodgrass group had wound infection. while 3 (10%) patients in the Bracka II group and only 1 patient (3.3%) in the Snodgrass group had stenosis.

Two bumps were in the coronal site, while one patient had phimosis at the site of the original subcutaneous lobe. Muscle stenosis in both patients was conservatively treated with routine muscle dilatation, and subjective complaints were cured in one patient, but one patient required plastic surgery.

DISCUSSION:

Hypospadias surgery is aimed at building a flat penis and providing an esophagus to ensure normal evacuation and sexual function during sexual intercourse. However, the long-term psychological consequences of cosmetically unsatisfactory repair justify the need for optimal repair that can provide a functionally and cosmetically normal result. Our experience with both techniques has demonstrated the versatility of the urethra of the urethra for urethroplasty as a longitudinal incision of the midline leading to the enlargement of the urethra, and thus it was possible to narrow the urethra during repair of Snodgrass. . Bracka II, who has already expanded the urethral grafted plate. The stage was easy. During the procedure, a high percentage of complications occurred due to the different levels of experience of different surgeons. In our study, simply trimming the skin of the penis in the Snodgrass group can improve the chorus in thirty patients, while the cornea has already been repaired in all patients in stage Bracka II. Recurrent penile cords in later life can be a potential complication. In one study, all patients with late onset of penile chord had a mid-axis hypospadias during the first surgery. In our study, fistula developed in 7 (23%) patients with distal penile hypospadias and in 12 (40%) patients with hypospadias in the central axis. Reports from studies on the appearance of fistulas from 4 to 16% for distal hypospadias of the penis and central axis, soft tissue management, there are several factors that can increase the frequency of

fistula formation. In our study, muscle stenosis developed in 4 (13.33%) patients with Snodgrass and 6 (20%) patients with Brack repair in stage II. Other studies indicate muscle stenosis between 2 and 20%. In this study, we could not find a case of suture sinus suturing.

Reported remarkable Snodgrass repair results are good urethral vascularization, urethral uneven plate management, single suture closure, low transplant-free complication, and good aesthetics. Several studies have shown remarkable results compared with other surgical techniques for the repair of hypospadias repair Snodgrass. These studies showed that the rate of fistula formation and flap necrosis was significantly lower when using the Snodgrass technique compared to Brack II repair. Snodgrass urethroplasty has been found to be more convenient and less demanding than most ongoing Bracian repairs by most surgeons.

CONCLUSIONS:

The old saying that "there is more than one way to skin a cat" is very true for hypospadias surgery. The proposed protocol, or rather every alternative protocol, will not appeal to everyone and there will be surgeons who have extensive experience in patch repair and will be satisfied with their results. Highly experienced and technically gifted with a super specialist, he may feel that he can repair almost all his cases, using various one-step procedures, and quite sparingly apply the Brack approach. Repair

Snodgrass provides optimal repair of the distal and middle subcutaneous defect with a low complication rate and excellent cosmetic effect. While staged repair is a safe and reliable approach in selected patients in whom the urethral plaque cannot be included in the repair, and therefore requires replacement. Further studies should be carried out to assess the suitability of these techniques not only in terms of the frequency of complications, but also in functional and cosmetic results using parameters such as glanular configuration, urine flow, maximum and average urine flow rate, urethral caliber and erectile simplicity.

The final result of the Snodgrass and Bracki stage II technique can be assessed only when the patient reaches puberty.

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