Objective and Subjective Sexual Outcomes in Adult Patients after Hypospadias Repair Performed in Childhood

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Abbreviations
and Acronyms
$ED = erectile \ dysfunction$

MAGPI = meatoplasty and glans incorporation

MCS = mental component summary

PCS = physical component summary

PE = premature ejaculation

 $\begin{array}{l} \text{SEAR} = \text{Self-Esteem and} \\ \text{Relationship} \end{array}$

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* Correspondence: Department of Pediatric Urology, Shaare Zedek Medical Center, Jerusalem, 91031, P.O.B 3235, Israel (telephone: +972-2-6555560; FAX: +972-2-6666955; e-mail: <u>chertinb@</u> <u>szmc.org.il</u>). **Purpose:** We evaluated sexual function and psychosexual adjustment in adults who underwent hypospadias repair in childhood.

Materials and Methods: After receiving institutional review board approval, 119 of 449 adult patients (26.6%) who underwent hypospadias repair between 1978 and 1993 responded to questionnaires on penile appearance and sexual life. Patients were divided into 3 groups according to primary meatal location in childhood, including group 1-45 (37.8%) with glanular hypospadias, group 2-56 (48.2%) with distal hypospadias and group 3-18 (14%) with proximal hypospadias.

Results: All group 1 and 2 patients, and 11% in group 3 were satisfied with the penile appearance. Of group 1 patients 8.9% reported mild erectile dysfunction, as did 50% and 72.2% in groups 2 and 3, respectively. A total of 99 patients (83.2%) complained of premature ejaculation. All group 1 and 2 patients reported excellent self-esteem and relationship on the Self-Esteem and Relationship questionnaire. Most group 3 patients were satisfied with their relationship and only 1 (5.6%) was not satisfied. Two-thirds of the patients in groups 1 and 2 reported that sexual quality of life was excellent and the others described it as good. In group 3 sexual quality of life. Physical and mental component summaries were satisfactory in all patients reviewed.

Conclusions: Our data show that the high incidence of mild erectile dysfunction and premature ejaculation should not be disregarded and requires appropriate counseling before surgery.

Key Words: penis, hypospadias, erectile dysfunction, psychosexual development, questionnaires

DURING the years, hundreds of surgical procedures have been suggested to repair hypospadias.^{1–8} A significant number of scientific articles have been published that discuss short-term function and the incidence of early problems after hypospadias repair, such as urethral stricture and fistula.^{1,5–7} Surprisingly, scant attention has been given to the long-term results of hypospadias repair and

what influence there may be on subsequent patient social and sexual behavior. The sexual function of patients who underwent pediatric hypospadias repair remains an enigmatic problem frequently raised upon penile reconstruction by the parents of children with hypospadias.^{9–12}

As the child grows into adulthood, sexual function becomes an important issue. Sexual dysfunction in adults

who underwent hypospadias surgery may take many forms, including body image issues due to a history of genital surgery and genital scarring, residual or recurrent penile curvature, possibly causing cosmetic and functional difficulty, erectile dysfunction and ejaculatory problems. Not surprisingly, data on these questions are sparse and difficult to assess since most pediatric urologists do not follow patients well into adulthood and are not experts in sexual medicine. On the other hand, most adult urologists see only patients who complain of problems and may be led to believe that sexual problems in patients with hypospadias are more common than they actually are. An additional confounding factor is the fact that most reports in the literature on the long-term results of hypospadias surgery generally and sexual outcomes in particular are based on patients operated on decades ago using reconstructive techniques that today would be considered outdated or less often in use. Thus, these reports do not provide the answers that we need to dependably predict the long-term sexual outcomes of currently used surgical techniques.

Therefore, we evaluated the sexual function of adult patients who underwent hypospadias repair in childhood using standardized outcome measures of sexual function. Some surgical techniques used in this operative series are still in use at many centers of excellence. We believe that validated data on sexual outcomes in patients with hypospadias will allow proper preoperative counseling.

PATIENTS AND METHODS

After receiving institutional review board approval, we reviewed the medical files of all patients who underwent primary hypospadias repair at our department. We previously reported our surgical regimen and outcomes in patients with primary hypospadias treated with operative repair at our department in the last 3 decades.^{13,14} Our surgical protocol slightly changed during the years. Briefly, all patients were considered for surgery after age 6 months. Hormonal supplementation was given to those with a small phallus, as we previously reported. All hypospadias repairs were done as an outpatient procedure using loupe magnification in 87% of cases. Silicone stents remained in all patients between 24 hours and 6 to 7 days postoperatively according to repair type and primary meatal location.

All patients had 1 routine followup visit 6 months and 1 year after surgery. Subsequently, those without complications were advised to return to the clinic at age 12 to 13 years and at age 18 years upon the completion of adolescence or before recruitment into the army unless there were urological problems or dissatisfaction with the surgical or functional outcome.

We reviewed the hospital and office charts of study patients, noting age at surgery, meatal location, type of hypospadias repair, chordee, operating surgeon and rate of complications such as closure breakdown, fistula, meatal stenosis and the need for reoperation. Complications were divided into immediate—all complications within the first 6 months of followup and late—complications that developed 6 months or more postoperatively.

Included in study were 449 adult patients who underwent primary hypospadias repair as children between 1978 and 1993, had reached age 18 years at the time of the study and had at least 1 year of postoperative followup. They were asked to respond to questionnaires, including the International Index of Erectile Function (IIEF), SEAR, SF-12®, PE and Sexual Quality of Life-Male. In addition to these internationally validated questionnaires, we used a locally developed and yet unvalidated questionnaire on patient perception of psychological wellbeing and penile appearance. All questionnaires were translated to the native language of the responders. Questionnaire scores of patient satisfaction with penile appearance included full satisfaction-46 to 62, mild bother-32 to 45, moderate bother-17 to 31 and severe bother—0 to 16 points.

We used GraphPad® Prism®, version 5.00 for Windows® with the chi-square and Fisher tests for statistical evaluation with p < 0.05 considered significant.

RESULTS

Of the 449 adult patients 119 (26.6%) responded to the questionnaires. Patients were divided into 3 groups by the primary meatal localization.¹⁵ Group 1 included 45 patients (37.8%) with glanular hypospadias, group 2 consisted of 56 (48.2%) with distal hypospadias and group 3 included the remaining 18 (14%) with proximal hypospadias in childhood. The mean age \pm SD of these adult patients at surgery was 2.7 ± 3.9 years. Of the operations 69% were performed by fellowship trained pediatric urologists and the remaining cases were performed by adult urologists or senior residents under the supervision of a senior surgeon. Only 64 patients (14.2%) required corporoplasty to straighten the penis. In the remaining patients penile skin degloving was sufficient to correct chordee.

In group 1 meatal advancement or meatoplasty, MAGPI, and Thiersch-Duplay and Mathieu flap hypospadias repair were done in 3(6.7%), 20(44.5%), 3 (6.7%) and 19 (42.1%) children, respectively. In group 2 Mathieu and Thiersch-Duplay hypospadias repair, MAGPI and preputial island flap as onlay hypospadias repair were done in 28 (50%), 5 (8.9%), 20(35.7%) and 3 children (5.5%), respectively. In this group MAGPI was performed only in patients with a coronal meatal location. In group 3, 2-stage hypospadias repair was done in 4 patients (22.2%) and 1-stage surgery was done in 14 (77.8%), including a preputial island flap as onlay hypospadias repair in 9 (64.3%), tubularized preputial island flap hypospadias repair in 2 (11.1%) and Thiersch-Duplay hypospadias repair in 3 (16.7%).

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