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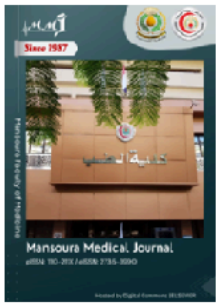

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SEMIRIGID ROD PENILE IMPLANTS STILL HAVE A MAJOR ROLE IN SURGICAL TREATMENT OF IMPOTENCE

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SEMIRIGID ROD PENILE IMPLANTS STILL HAVE A MAJOR ROLE IN SURGICAL TREATMENT OF IMPOTENCE

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ABSTRACT

This study was done on thirty patients complaining of Erectile Dysfunction (ED) selected with different organic causes (diabetic, vasculogenic, peyronie's disease). All our patients were submitted to (a) careful history taking (Sexual, Psychological and Medical), (b) thorough examination (General, Genital and Neurologic), (c) laboratory investigations (complete blood picture, urine analysis, lipid profile, haemoglobin A1C, blood sugar, liver functions, serum testosterone and prolactin), (d) special investigations for (ED) (papaverine injection intracavernosal, duplex doppler ultrasound, nocturnal penile tumescence test (NPTT) using (Rigiscan). After being sure of diagnosis of organic impotence, and the patient opts for surgical therapy we did the operations of penile implant by using Semirigid Rod type called Accuform Mentor (Santa Barbara CA) in all cases. Postoperative care was done very carefully. We can conclude that the above mentioned type of prothesis is: easy to insert, simple to operate, less brone to malfunction, satisfactory for the patient and relatively more economic than the inflatable types.

INTRODUCTION

Erectile dysfunction (ED) is defined as the inability to obtain and maintain penile rigidity sufficient to permit satisfactory coitus. It is the preferred term for impotence (1). Most impotent men are able to ejaculate and sexual desire (libido) is also preserved. At least 10 million American men and perhaps as many as 20 millions are impotent, another 10 million may suffer from partial erectile dys-

function (2). In Egypt there is no definite statistical data until now but according to follow up at our outpatient clinic, we can say that it is a major problem with progressively increasing number of patients. Erection is primarily a vascular event that results from the complex interplay of the hormonal, vascular, peripheral nerve and central nervous system (3). Primary causes of impotence in men presenting to outpatient clinic are: Endocrine factors (30%), Diabetes Mellitus (15%), Medication (20%), Systemic disease and alcoholism (10%), Primary vascular causes (alterations of blood flow) (5%), Primary neurologic causes (5%), Psychogenic or unknown causes (15%) (4). "Stuttering" impotence is impotence that alternating with periods of entirely normal sexual function and multiple sclerosis (MS) is the most significant organic cause of it (5). Clinical evaluation of (ED) is also relatively straightforward: differentiation between psychogenic and organic (ED) which is made by taking a detailed sexual and medical history and by performing nocturnal penile tumescence testing (6). A wide variety of treatment options is available today for (ED) including sex therapy, systemic therapy (sildenafil), vacuum constriction devices, intraretheral pharmaco therapy, penile injection therapy, penile prothesis implantation and penile vascular surgery (7). In (1990), Lue introduced the concept of the "patient's Goal-Directed Therapy" for (ED) in this era of cost containment, some have advocated an approach that provides (ED) patient with a menu of treatment options. The patient selects the treatment option that appeals to him and his work-up is then tailored for that option (8).

AIM OF THE WORK

This work aims at evaluation of the Semirigid Rod penile prothesis (Accuform-Mentor) as a method of treatment of impotence regarding the technique, cost , efficacy, patient satisfaction, and possible complications.

PATIENTS AND METHODS

This study was done on thirty (30) patients with erectile dysfunction during the period from October 2000 – October 2001 inclusive. They were selected from 100 patients complaining of (ED), to do surgical treatment for them after failure or non satisfaction by other lines of treatment. Their ages ranged from 24-54 with mean age (36 years). All our patients were submitted to the following main items:

I) History.

II) Physical examination.

III) Laboratory investigations.

IV) Specialized investigations for (ED).

I) History :

Of all the elements in the evaluation for (ED), it is our opinion that proper history taking is the most important: it included: a, b, c, d

a- Sexual history: cheif complaint and duration of the problem, onset (sudden versus gradual) and progression , sexual review of systems (Libido, Erections, Ejaculations), previous tests and treatments, frequency and results of current attemps.

b- Psychosocial assessment: relationship conflicts, drug or alcohol abuse, psychiatric disorder and any psychogenic dysfunction.

c- Sexual history: Onset and duration of the problem (sudden, gradual), Erections (situationally present, morning, nocturnal, with masturbation, with different parteners), Globally decreased or absent, Quality of best erection (duration, rigidity, self rating on scale of 0-10).

d- Medical history: medical illness specially diabetes and liver diseases, operations, trauma, radiation therapy, medications, alcohol, smoking, sleep disorders.

II) Physical examination :

That item included a, b, c,

a- General physical examination: general appearance, blood pressure, secondary sex characteristics, gynectomastia, abdominal examination, peripheral pulses.

b- Genital and rectal examination: circumcision status, penile plaques, corporeal induration, penile stretch, testicular size and consistency, rectal sphincter tone, prostatic examination.

c- Neurologic examination: gait, motor and sensory examinations, deep tendon relexes, lower back , gluteal cleft examination, bulbocavernous reflex, saddle sensation.

III) Laboratory investigations :

That included: complete blood count, fasting and two hours post prandial blood sugar, haemoglobin A1C (for detection of adult onset diabetes mellitus), liver functions , urine analysis, lipid profile, , serum testosterone and prolactin) .

IV) Specialised investigations: for (ED) :

That included:

a- Intracavernosal papaverine injection: used diagnostically in all cases with combination with duplex ultrasonography.

b- Nocturnal penile tumescence testing: (NPTT) by using Rigiscan (Imagyn Medical Technologies, Augusta, GA): this investigation is based on the following criteria:

1- Normal males of all ages have sleep erections
2- Normal (NPTT) usually implies a psychogenic etiology.
3- Abnormal (NPTT) usually implies an organic etiology.

This investigation is of atmost importance to differentiate between psychogenic and organic causes of impotence.

c- Duplex Doppler ultrasound.

In this study, since the patient opts for surgical treatment, the above mentioned investigations were satisfactory enough to tell us that (ED) is organic and no further investigations (either cavernosometory, cavernosography or penile arteriography) were required. According to "patient's Goal-Directed therapy" for (ED), we tried to put or select specific indications or criteria for patients selecting penile implants which were :

1- Scarred corporal bodies (Peyronie's disease, Trauma).
2- Unsatisfactory results with systemic treatment (Sildenafil).
3- Satisfaction of a co. worker, neighbor , or relative with an implant.

In this study, we used a type semirigid Rod implant called (Accuform). The Technique included: a, b, c

A) Preoperative preparation :

Sterile urine, cleansing genitalia with strong soap, shaving the pubic area, antibiotic prophylaxis, surgical sterilization with antiseptic solution, insert self retaining silicon catheter.

B) Operative technique :

* General anaesthesia with endotracheal tube.

* We used ventral penile approach.

* Stay suturing of the glans to abdominal skin to expose the ventral surface of the penis.

* Ventral penile incision down to the subcutaneous tissue.

* Dissect skin and elevate by stay suture.

* Incision of Buck's fascia.

* Incision of the tunica albuginea to enter the corpora cavernosa

hanged by stay sutures.

* Dilating the corporal body with hegar dilators till reaching the largest caliber adapted by the corpus cavernosus.

* Measuring the length of the corpus cavernosus to tailor the optimal length of the prothesis.

* Insertion of prothesis at first proximally, reaching to the glans (1/3 of its length), then distally till reaching the root of the penis.

* If there was shortage in the length of the implant, cap was added to it (add 0.5-1 cm in length).

* Closure of the incision in tunica of the corpora cavernosa by continuous sutures (vicryl 3/0)

* Closure of Buck's fascia by continuous sutures (vicryl 3/0)

* Closure of the skin by interrupted sutures (vicryl 3/0).

* No drains were put.

C) Postoperative care:

* Prophylactic antibiotics, dry dressing for 10 days, removal of the uretheral catheter after 24 hours from operation time.

* Observation for: fever, rigors, redness, swelling (= infection).

* Allow sexual intercourse after one month.

* Follow up after one month for:

1- Satisfaction :

a) Male sexual satisfaction.

b) Female sexual satisfaction.

2- Ejaculation whether :

a) Normal

b) Delayed

c) No ejaculation

d) Retrograde ejaculation (detected by urine analysis immediately after sexual intercourse).

* Long term follow up after one year for:

1- Ulceration.

2- Migration of prothesis.

3- Glandular perforation.

RESULTS

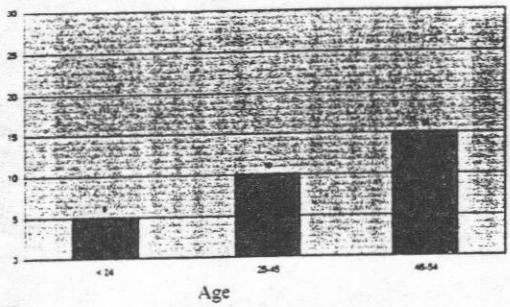

Fig. (1) : Relation between age of patients and impotence.

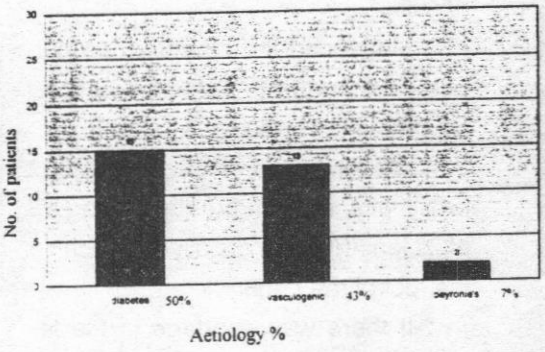

Fig. (2) : Relation between the incidence of impotence and aetiology.

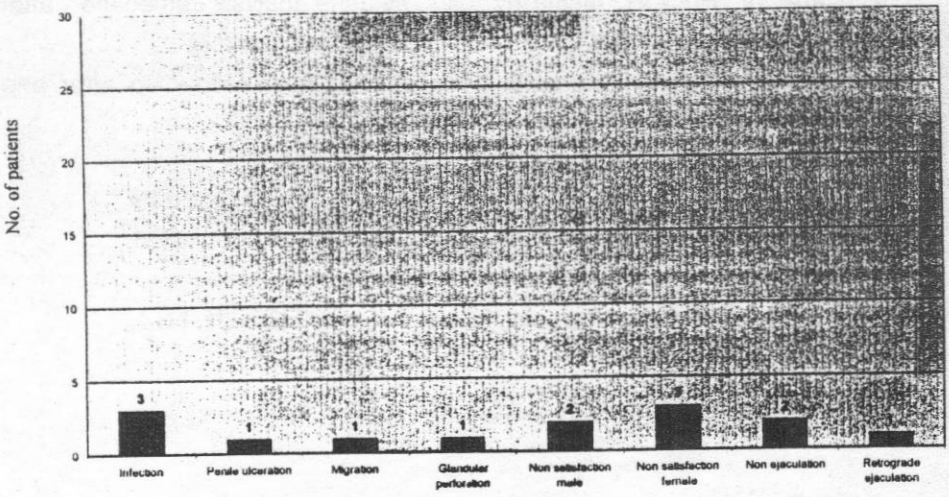

Fig. (3) : Early and late complications.

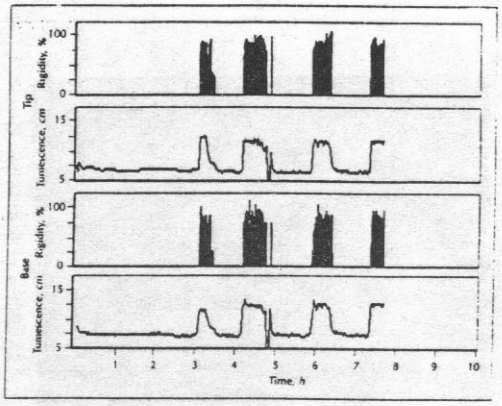

Fig. (4) : Normal rigiscan (NPT).

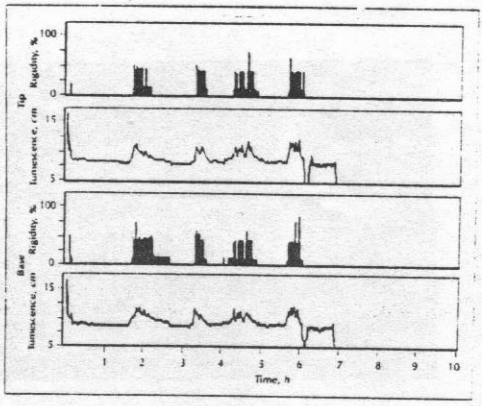

Fig. (5) : Abnormal rigiscan (NPT) in patient with vasculogenic (ED) : both tumescence and rigidity are impaired.

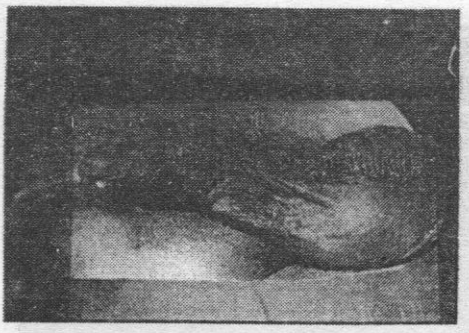

Fig. (6) : Area sterilization, self-retaining silicon catheter, anchoring stitch of the glans to the abdominal wall to expose the ventral aspect of the penis.

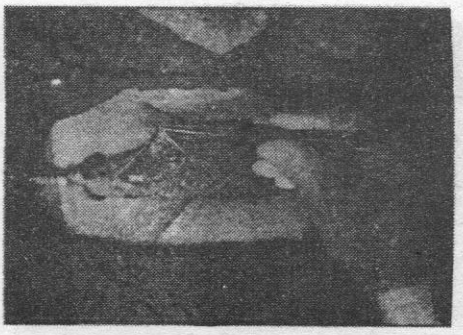

Fig. (7) : Skin and subcutaneous tissue incision (ventral penile incision).

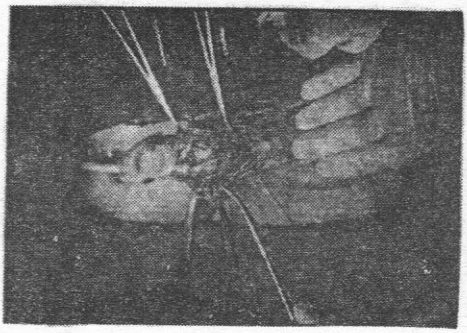

Fig. (8) : Incision of Buck's fascia with stay sutures of the skin.

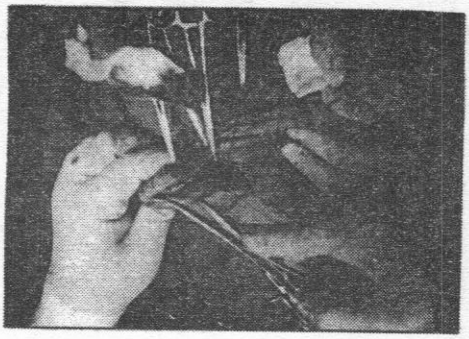

Fig. (9) : Exposure of corpora ca vernosa

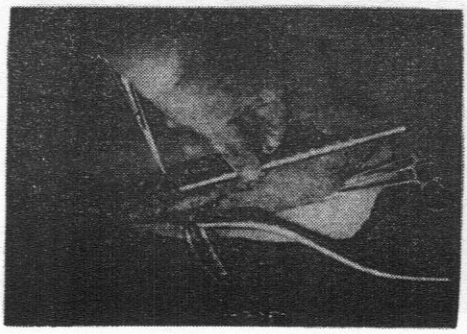

Fig. (10) : Incision of tunica albuginea to open the corpora cavernosa limited by stay sutures and dilating the corporal body by Hegar dilators.

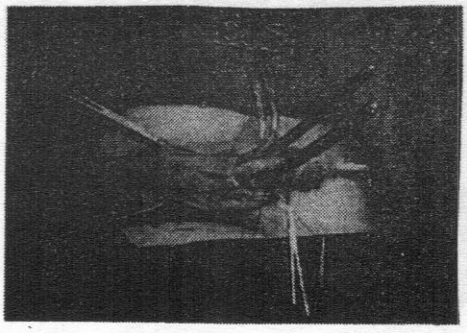

Fig. (11) : Full dilation with Hegar dilator to accomodate the diameter of the penile implant.

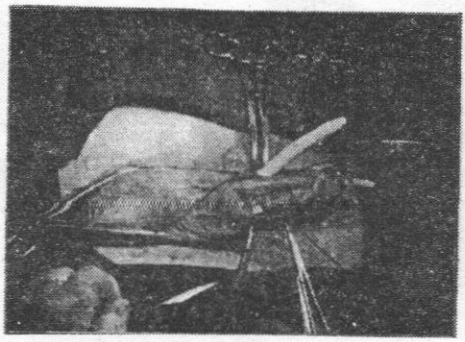

Fig. (12) : Insertion of the semirigid rod implant (firstly proximal insertion).

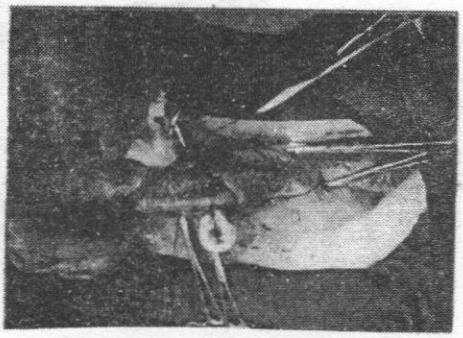

Fig. (13) : Distal insertion of the implant.

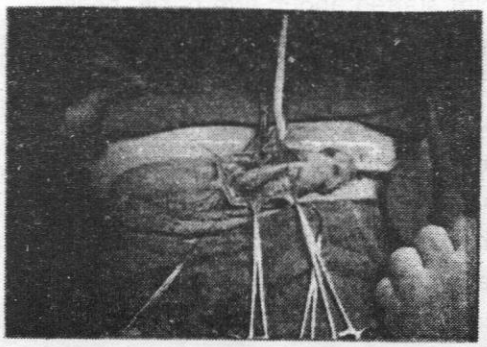

Fig. (14) : Complete closure of tunica albuginea by continuous sutures (vircyl 3/0).

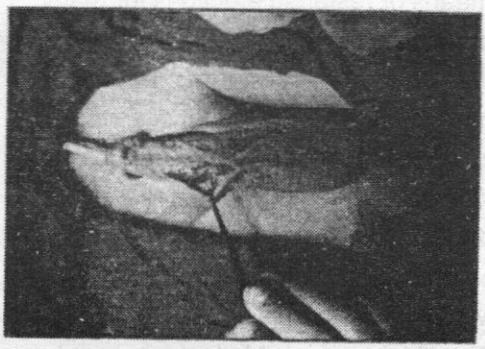

Fig. (15) : Closure of Buck's fasia (vicryl 3/0) by continuous sutures.

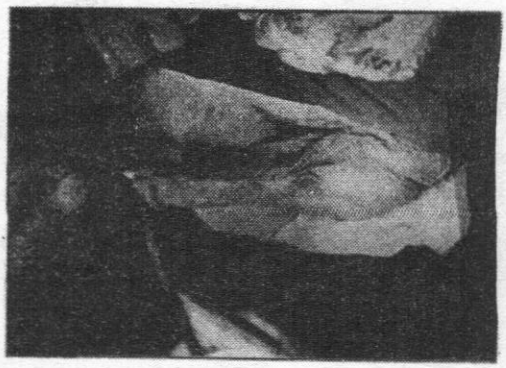

Fig. (16) : Closure of the skin by interrupted sutures (vicryl 3/0) .

DISCUSSION

With the introduction of penile protheses in 1973, interest in (ED) increased greatly. These devices have provided a predictable and reliable means of restoring erections for many patients, specially for those in whom less invasive treatments have not been effective or in whom scar tissue in the penis has not permitted a satisfactory result with other alternatives (9). There are two main types of implants: (a) the inflatable (three piece, two piece , one piece), (b) Semirigid Rod (Mechanical, Malleable). In this study we used the type Accuform (semirigid). Although this type is fading and decreasing in many areas all over the world but we found that it is less price than other inflatable types and more or less suitable for Egyptian patients. After selection of the patient suitable for prothesis, discussion with him started about: firm penis, penile size , sensitivity and ejaculation. For our patients, the confidence of having an erection that was immediately available under all circumstances was a comforting feature. We know that this type of implant has the disadvantages of: inconvienience during physical activity also spring back may make the positioning a problem. Other complications such as infection, prolapse of prothesis. uretheral injury, ulcers, migration, glandular perfora-

tion may occur but they were of very low rate of incidence with us due to massive use of antibiotics, meticulus dissection and reasonable experience in this field. The type of implant used , to us, has great advantages such as: easy insertion, less brone to malfunction, simple to operate and can be done with local anaesthesia (penile block using 1% lidocaine without epinephrine) but we didn't use this method of anaesthesia in our study. An important point is the price of the implant which is related to the socioeconomic standard of the patient. This type of prothesis is relatively more economic compared with the inflatable types (three even four folds higher in price)

At the end, we can recommend that the use of Accuform semirigid rod implants still have a major role in treatment of (ED), with good satisfaction for many patients in Egypt and should not be replaced completely by the inflatable type.

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العنـــوان

النسيج الدعامى النصف صلب مازال له دور كبير فى العلاج الجراحى لمرضى العنة

بحث مقدم من

د. ياسر على السيد

قسم الجراحة العامة - وحدة جراحة الغدد الصماء

أجريت هذه الرسالة على ثلاثين مريض ذكر مصابين بمرض العنة (الضعف الجنسى عند الرجال) تنوعت أسباب هذا المرض مثل مرض السكر أو تسريب وريدى فى القضيب أو قصور شريانى فى القضيب أو تليف أولى بالقضيب (مرض بيرونى).

تم عمل التحاليل المعملية والأشعات الخاصة (مثل دوبلكس - ريجيسكان)، بعد ذلك تمت مقابلة المرضى وعرض عليهم فكرة تركيب النسيج الدعامى داخل القضيب وقد إختاروا جميعاً هذه الطريقة لعلاج العنة نظراً لفشل الوسائل الأخرى مثل العلاج الدوائى والحقن فى القضيب .

تمت هذه العمليات بنجاح تام ونسبة مضاعفات قليلة جداً والمرضى خرجوا من هذه الجراحة معافين تماما ومقتنعين بنتيجة العملية.

وفى نهاية البحث نوصى باستعمال هذه الطريقة كوسيلة فعالة لعلاج هذا المرض.