Research Article

Clinical Evaluation and surgical Management of Peyronie's disease

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Abstract

Introduction: Peyronie's disease is a localized fibrosis of the tunica albuginea resulting in plaque formation, painful erection and deviation of the erected penis – despite centuries of recognition since (1743), Peyronie's disease remains a puzzle. Aim of our work is to evaluate diagnostic protocol and management of patients at different age groups attending the outpatient clinic at Minia University Hospital presented by palpable penile plaque. **Patients and Methods:** We evaluated 18 patients (from 40 to 60 ys) with severe degree of penile angulation and palpable plaque by surgical interference in the form of plication of tunica albugenia (10 patients) and penile prosthesis implantation (8patients). **Results:** As regards results of surgical interference 8 cases out of 10 (80%) developed improvement of penile bending from 40° to 10° (significant improvement), whereas all patients of penile prosthesis (100%) developed improvement of penile bending from 45° to 0° .

Key words: Peyronie's disease – Penile Doppler – Plication – Penile Prosthesis

Patients and Methods

We evaluated 18 patients with surgical intervention with inclusion and exclusion criteria below:

Inclusion criteria for surgical group

1- Severe penile angulation during erection to the degree that it affected patient's sexual life with his partner.
2- Failure of medical treatment for at least 6 months therapy
3- Erectile dysfunction not responding to oral therapy.

Exclusion Criteria

Patients unfit for surgical procedure as:

1- Major renal or hepatic impairments
2- History of myocardial infarction (MI) or cerebrovascular strokes (C.V.S).
3- Uncontrolled DM

- **Tunica Albuginea Plication (for 10 patients)**
- **Penile prosthesis implantation operation (for 8 patients)**

Results

Point of comparison	Plication of t. A.	Penile prosthesis
No. of patients	10	8
Age	35-49 years	52-66 years
Operative time	30-40 min.	60-75 min.
Hospital stay	1-2 days	2-3 days
Criteria of success		
- **Improvement of bending**	8 cases (80%)	7 cases (87%)
- **Improvement of painful erection**	7 cases (70%)	7 cases (87%)
- **Improvement of erectile function**	6 cases (60%)	8 cases (100%)

Before surgery, patient evaluation should establish location, degree, and direction of curvature(s), and presence of hinge or hourglass deformities, as well as the presence or absence of ED. This will help to dictate the surgical approaches and allow for detection of the realistic expectations for the patient as related to the intervention

The patient should understand PD surgery algorithms and how they are chosen for application to his particular case:

a. **Plication surgery:** Preferred for patients having adequate penile length (will have penile length loss with the repair), intact erectile function, their curvature looks reasonably correctable with this approach, and minimal/absent hourglass deformity causing hinging.
b. **PPI**: Preferred for patients having complex penile deformities not amenable to the above techniques, presence of refractory ED, or patient preference.

Discussion

At first, we evaluated the patients with Peyronie's disease by medical and sexual history, Questionnaire for Peyronie's disease (translated to the patient and filled out by the doctor) and physical examination carried out for all patients during the first visit According to initial evaluation and treatment provided to them; our patients were divided into two main groups, Non-surgical group and Surgical group.

Surgical group Included 18 patients 10 of them were operated upon for plication of the other side of the T.A.

The other 8 patients were operated upon for penile prosthesis implantation surgery (mainly for severe degree of erectile dysfunction).

As regards results of surgical interference 8 cases out of 10 (80%) developed improvement of penile bending from 40° to 10° (significant improvement), whereas all patients of penile prosthesis (100%) developed improvement of penile bending from 45° to 0° .

Peyronie's disease (PD) is a localized, conective tissue disorder of the tunica Albuginea. It's a fibrous inelastic scar that leads to a triple impact on male sexuality by causing pain on erection, penile curvature, and subsequent devastating sexual and psychological effects of the patient as well as his life partner. Despite the low reported prevalence of PD that ranged from 0.39% to 13.1% among different ethnic groups, it is suspected to be underreported. (Dibenedetti DB, advanced urology 2011).

In our study, we did placation surgery in 10 patients and prosthesis implantation in 8 patients. The plication procedures, the most common surgical treatment for PD, are attractive due to their good results as high degree of curvature correction and their relatively low risk of adverse effects.

With the presence of many techniques for plication, the success and satisfaction may vary with the technique, but these differences do not reflect superiority of one technique over another and direct comparisons across the observational studies cannot be made. (Dahm P. 2017).

Patient's satisfaction after plication may be related to straightening and improved sexual performance; while dissatisfaction may correlate with many factors as postoperative penile shortening, ED, pain, change of penile shape, and worsening curvature and sensation. The literature shows plenty of studies in which the curvature correction rates range from 42–100%. (Chung E. 2016)

In our study, 8 patients (80%) in the plication group and 7 patients (87%) in the prosthesis group had improvement in penile pending (curvature) with curvature correction rates range from 40(with plication)-100% (with prosthesis). The overall patient satisfaction in the literature ranges from 68–100%.

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