

GUIDELINES ON ERECTILE DYSFUNCTION

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1. Background, definition and classification

Male erectile dysfunction (ED) (impotence) has been defined as the persistent (lasting for at least 6 months) inability to attain and maintain an erection sufficient to permit satisfactory sexual performance. The Massachusetts Male Aging Study reported a combined prevalence of 52% for minimal, moderate, and complete ED in non-institutionalized 40-70-year-old men in the Boston area. In this study, the individual prevalences were 17.2%, 25.2% and 9.6% for minimal, moderate and complete ED, respectively. The same study found that the incidence of ED was 24 new cases per 1000 men. The use of validated questionnaires, such as the International Index for Erectile Function (IIEF), may be helpful in order to assess objectively not only the present status but also the impact of a specific treatment.

The overall objective of the EAU guidelines is to produce a standard for clinical evaluation and treatment, based on review of available scientific information as well as on current research and clinical practice in the field.

2. Diagnosis and work-up

The diagnosis is based on the following:

- A medical history including previous medical history in

detail, surgery in the past, medication and eventual abuse.

- A disease specific history including duration and severity of the symptoms, morning erections, libido, emotional status, relationship and previous treatments against ED.
- A focused physical examination focused on genito-urinary, endocrine, vascular and neurological system. A DRE should be included in patients of >50 years of age.
- Laboratory test may frequently include blood glucose estimation completed by testosterone, prolactin, prostate-specific antigen and lipid profile as indicated.

It is important that the physician facilitates communication with the patient and his partner, and explains the strategy behind the diagnostic and therapeutic approach. Often it may not be possible to involve the partner on the first visit, but an effort should be made to involve the partner during the second visit. On that occasion the physician examines the results of the blood tests. If any abnormality is observed, further investigation by referral to another specialist may be necessary.

The discussion considers patient's expectations and needs, and should involve the physician, the patient and their partner. It should cover the understanding of the disorder, interpretation of the diagnostic tests and rational selection of treatment options. Patient and partner education are essential components in the management of ED.

Specific examinations and tests

While the majority of patients with ED can be managed within the sexual care setting, some circumstances may dictate the need for specific diagnostic testing:

- The patient with primary erectile disorder because, beside

psychogenic causes, it is mandatory to exclude organic disease

- Young patients with a history of pelvic or perineal trauma who could benefit from potentially curative vascular surgery
- Specific tests may also be indicated at the request of the patient or his partner
- For medico-legal reasons.

Among the specific tests used are: assessment of nocturnal penile tumescence and rigidity (NTPR) using Rigiscan-NTPR; vascular studies, such as intracavernous vasoactive drug injection and duplex ultrasound completed with arteriography or cavernosometry; neurological studies, such as bulbocavernous reflex latency and nerve conduction; endocrinological studies; and a specialized psychodiagnostic evaluation. The NPTR should take place for at least two nights. The presence of an erectile event of at least 60% rigidity recorded on the tip of the penis, lasting for 10 min or more, should be considered as indicative of a functional erectile mechanism.

3. Treatment

The first objective of every doctor is to cure the medical condition. Therefore, the primary goal in the management strategy for a patient with ED is to determine the aetiology of the disease and treat it when possible. This may include correction of life-style and drug-related factors, hormone replacement, surgical reconstruction after pelvic trauma, correction of associated Peyronnie's disease e.t.c

When no specific therapies for ED are possible (which is in the majority of cases), a strategic approach should be followed.

Again the patient and his partner, when possible, must be informed on the route of administration, the invasiveness, the cost and the reversibility of the treatment.

First-line therapy

Oral therapy - sildenafil

Sildenafil is a potent and selective inhibitor of cyclic GMP (cGMP), specifically phosphodiesterase type 5, the predominant isoform of the enzyme found in the human penis, resulting in smooth muscle relaxation, vasodilatation and penile erection. Sildenafil is an oral drug, effective after 60 min in the presence of sexual stimulation. The most common side effects include headaches, flushing, dyspepsia and nasal congestion. It causes small decreases in systolic and diastolic blood pressures, although clinically significant hypotension is rare.

Contraindications

- Nitrate containing medications prescribed (either short or long acting)

It may be hazardous to prescribe sildenafil to patients with the following conditions

- Active coronary ischaemia
- Congestive heart failure and borderline low blood pressure
- Borderline low cardiac volume status
- A complicated multi-drug antihypertensive programme
- Drug therapy that can prolong the half-life of sildenafil.

Recommended dosage

The dosages are 25, 50 and 100 mg. The starting dose should be 50 mg regardless of the aetiology of ED and adapted accor-

pertensive medication or nitrates are at a low risk for adverse events associated with apomorphine SL.

Physicians should warn the patient that sexual intercourse is considered to be a vigorous physical activity, which increases heart rate as well as cardiac work. Physicians should assess the cardiac fitness of patients prior to treating ED

Vacuum device

A vacuum device could be used in patients who do not want medical therapy. It is generally better accepted in older patients. The device applies a negative pressure to the penis, thus drawing venous blood into the penis, which is then retained by the application of a visible constricting band at the base of the penis. The adverse effects associated with vacuum therapy are penile pain, numbness and delayed ejaculation.

Psychosexual therapy

For patients with a significant psychological problem, psychosexual therapy may be given either alone or in combination with another therapeutic approach. Psychosexual therapy takes time and has been associated with variable results.

Second-line therapy

Intracavernosal injection or intraurethral therapy can be used according to the patient's wishes.

Intracavernosal injection

Several drugs have been proposed for intracavernosal injection, alone or in combination (prostaglandin E1, phentolamine-vasointestinal polypeptide, phentolamine-papaverine, maxisli-

ding to the success and side-effects; however, patients with liver/renal failure and those aged over 65 years should be given 25 mg. It must be emphasized that the physician should warn the patient that sexual intercourse is considered to be a vigorous physical activity, which increases heart rate as well as cardiac work. Physicians should assess the cardiac fitness of patients prior to treating ED.

Oral therapy - apomorphine

Apomorphine is a D1 receptor dopamine agonist and has been available for the treatment of Parkinson's disease for decades. Apomorphine primarily enhances normal neurological signalling in sexual response, producing downstream activity in the peripheral penile vasculature.

Apomorphine is an oral drug, effective after 20 minutes and in the presence of sexual stimulation.

The most common side effects include mild to moderate nausea, which tends to disappear on repeated dosing, headaches and dizziness.

Contraindications:

Anatomical penile deformations (under investigation)

Other centrally acting dopamine agents (under investigation)

Recommended dosage

The recommended dosages for patients with mild to moderate ED are 2 and 3 mg. It is well-tolerated and there seems to be no interaction with other medications, food and alcohol. A too high dosage will result in nausea. Patients with cardiovascular conditions, or associated risk factors for cardiovascular disease, or who are on a regimen of various classes of antihy-

titrimx). Patient comfort and education are essential elements of the practice of intracavernosal injection therapy. Injection therapy is effective in 60-90% of cases. The erection appears after 5-15 min and lasts according to the dose injected.

Contraindications

- Hypersensitivity to the drug employed
- In men at risk of priapism.

Side effects

Side-effects include prolonged erections or priapism, penile pain and fibrosis.

Treatment of priapism

After 4 h of erection, patients are advised to consult the doctor to avoid any damage to the intracavernous muscle, which would provoke permanent impotence. A 19-gauge needle is used to aspirate blood and therefore to decrease the intracavernous pressure. This simple method is usually sufficient to make the penis flaccid. However, if the penis becomes rigid again after this, phenylephrine intracavernous injection at a dose starting at 200 µg every 5 minutes and increasing to 500 µg if necessary is required. The risk of having a prolonged erection during following subsequent injections cannot be predicted. When this problem occurs, the dose is usually reduced for the next injection. The patient must be carefully observed for systemic effects of the treatment used.

Intraurethral therapy

Prostaglandin E1 may be administered intraurethrally in the form of a semi-solid pellet. A band placed at the base of the

penis seems to improve the resulting rigidity. About 70% of patients have been satisfied or very satisfied. Side-effects include penile pain and hypotension, and the clinical success rate is lower than that achieved with intracavernosal therapy.

Third-line therapy

Prosthesis

For patients who fail pharmacological therapy or who prefer a permanent solution to their problem, surgical implantation of a prosthesis may be considered. This should only be performed in centres with special interest in this field.

This short booklet is based on the more comprehensive EAU guidelines (ISBN 90-806179-8-9), available to all members of the European Association of Urology at their website - www.uroweb.org.