Erectile dysfunction: Attendance and management at an East London clinic

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ARTICLE POINTS

1 Erectile dysfunction (ED) is a common but treatable condition in the majority of people living with it.

2 On average, men live with ED for more than 5 years before seeking help.

3 There remains a culture of embarrassment about discussing sexual function with men. A strategy for overcoming these barriers is proposed.

4 Phosphodiesterase type-5 inhibitors are effective for many men with ED, but they must be taken regularly to assess efficacy.

KEY WORDS

- **Erectile dysfunction**
- **Communication**
- **Performance anxiety**
- **Phosphodiesterase type-5 inhibitor**

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Introduction

Although erectile dysfunction (ED) is common in men with diabetes, and effective treatments are available, those affected often delay seeking advice or treatment. This retrospective review of men attending a nurse-led ED clinic in East London sought to determine the length of the delay and possible reasons for it. One barrier to effective management is at-risk men not being asked about sexual function at other opportunities. Strategies for overcoming this barrier, and for optimising phosphodiesterase type-5 inhibitor treatment while staying within government guidelines, are proposed.

Erectile dysfunction (ED) has been defined as the persistent inability to attain or maintain an erection adequate to permit satisfactory sexual performance (NIH Consensus Development Panel on Impotence, 1993). The incidence of ED was estimated at 52% in a random sample of men aged 40–70 years in The Massachusetts Male Aging Study (Feldman et al, 1994); and the number of men in the UK with the condition has been estimated at 2–3 million (Riley, 2002).

Commonly, the risk factors of ED are divided into 'organic' (physical or vasculogenic) and 'psychogenic' (or psychological, for example relationship difficulty or breakdown) factors (*Table 1*). These distinctions can be misleading and lead to inappropriate management; in the authors' experience, a common finding in a man with 'organic' ED is an equivalent contributory psychogenic cause as well.

Table 1. Risk factors for erectile dysfunction.

Physical	Psychological
Ageing	Absence of:
Smoking	– desire
Medication:	– trust
– antihypertensives	– privacy
– antidepressants	Presence of pain/ anxiety
– alpha-blockers	A 'healthy' body
Cardiovascular disease	
Renal failure	
Pelvic injury	
Prostate surgery	

Adapted from Maggi et al (2000)

Individuals with diabetes are considered to be at greater risk of erection failure as a result of the vasculature effects of the condition, and are therefore reviewed regularly by medical and nursing teams. During these reviews, HbA_{1c} levels are assessed, as well as, for example, blood pressure, diet, weight and smoking habit. Assessment of ED, however, is not always broached during these reviews, perhaps because of embarrassment on the part of the patient or clinician, limited consultation time, or reduced confidence in clinical management of erection failure.

Aim of the study

The profiles of men attending a sexual dysfunction clinic in East London were examined to determine how long they delayed seeking treatment and to identify the possible causes of this delay. Where possible, the clinical notes were reviewed to ascertain the reasons for delay in seeking treatment.

Methods

This was a retrospective analysis of people seen in a sexual dysfunction clinic. The clinic is a nurse-led secondary care centre that provides advice on the management of ED, such as rapid, premature or delayed ejaculation. Approximately 500 patients are seen in the weekly clinic each year. Individuals are referred by urologists, GPs and other healthcare professionals from

both primary and secondary care (for example, diabetes and heart failure clinics).

The majority of patients would have seen a urologist before being referred to the clinic. However, local direct referrals from a diabetes clinic, a heart failure clinic and GPs are common. Because of funding constraints, patients are given 15-minute appointments.

All patients who attended the clinic between February 2004 and February 2005 with a diagnosis of ED were identified. In this study, the inclusion criteria for analysis were self-reported inability to penetrate, or loss of tumescence before ejaculation.

Patient records were examined to obtain demographic and clinical data. Data were collected for age, duration of ED, presence of early morning tumescence, previous treatment and reasons for seeking treatment at this time. Similar data were collected from people with ED due to causes other than diabetes.

Results

A random convenience sample of 100 men with diagnosed ED were identified over a 12-month period. The median age of men in the sample was 58 (range 29–78) years in the group with diabetes and 60 (range 31–81) years in the group without diabetes. Fifteen men had type 1 diabetes and 35 had type 2 diabetes. People with diabetes controlled by diet only were excluded from the review in order that the incidence of ED could be explored in men with a known neurovascular pathology. The mean age of all men attending for advice concerning ED was 56 years.

Results showed that 70% (the remaining 30% receiving no treatment) of the cohort with diabetes had tried a phosphodiesterase type-5 (PDE-5) inhibitor (typically sildenafil citrate [Viagra; Pfizer]) at an initial dose of 50 mg once a week, in accordance with prescribing guidelines of the Department of Health (DoH, 1999); in the cohort without diabetes, 42% had received treatment (typically sildenafil citrate) but 58% had received no treatment.

The average time before seeking treatment was 62 months (range: 3–240 months). The most common reasons for not seeking treatment or advice from health professionals were embarrassment or the expectation that the health professional would broach the subject with them; other reasons included acceptance of erection failure as a consequence of ageing or disease, uncertainty of treatment availability, and changes in relationship expectations of sexual activity.

Table 2. Creating the opportunity for discussing erectile dysfunction.

Ask	The professional could approach the patient as follows: 'Some men can have trouble with erections when they take, for example, antihypertensive agents; if you have any problems, please arrange an appointment – there are treatment options available.'
Awareness	Posters on the waiting room wall make it possible for patients to know that talking about sexual dysfunction is acceptable.
Inform	For example, relaying information such as: 'Erectile dysfunction is common and is sometimes easily treated. There are physical and emotional causes that can affect your erections. If you are concerned or want to find out what help is available, contact http://www.sda.uk.net (accessed 20.10.2005; the Sexual Dysfunction Association, fomerly the Impotence Association) or ask your doctor or practice nurse.'

Discussion

The results of this study indicate that there is still a significant delay (>5 years) between onset of erection failure and seeking treatment from either primary or secondary care providers. Men with diabetes had been offered treatment with PDE-5 inhibitors before onward referral, whereas their counterparts without diabetes had not.

More than 75% of participants reported that they were not sure whom to ask for advice concerning sexual function and hoped that the subject would be raised in the course of a consultation. We contend that adopting a strategy of information provision (*Table 2*) facilitates discussion of sexual dysfunction.

Table 3. Common myths about sex and sexual function.

- Patients are too shy to speak about sex.
- Someone else will ask the person with erectile dysfunction about his condition.
- All people with diabetes have organic (physical) causes for their erectile dysfunction.
- Everyone is having a 'high standard' of sex.
- Nothing can be done for erectile dysfunction.

PAGE POINTS

1 The absence of specific questioning on the effects of erectile dysfunction (ED) impact heavily on the clinical management of erection failure.

2 The delay in seeking treatment and a high expectation that medication will work first time can result in unrealistic expectations of management.

3 There are many treatment options for ED, but we believe that the key to successful treatment is joint decision-making between the patient and healthcare professional, open discussion of the relative merits of each medication and allowing time for the patient (and his partner) to decide which option they wish to choose.

Table 4. Conditions required for sex.

- Trust
- Absence of pain (in both partners)
- Self-confidence
- Intimacy
- Communication
- Spontaneity
- Privacy

In the authors' experience, many assumptions are made about sexual activity (*Table 3*). These engendered feelings of emasculation, depression, loss of confidence and belief that the individual was letting his partner down and that he would lose his partner (Tomlinson and Wright, 2004).

The absence of specific questioning on the effects of ED impact heavily on the clinical management of erection failure. The delay in seeking treatment and a high expectation that the medication will work first time (Tomlinson and Wright, 2004) can result in unrealistic expectations of management, which are, in the author's experience, exacerbated by the current prescribing guidelines in the UK. The recommended dosing regimen of titrating medication up and limiting doses to once a week exacerbates erection failure by creating or worsening performance anxiety.

Performance anxiety often occurs when there is an unrealistic expectation of sexual ability. This includes attempting sexual activity when the conditions for sex are absent (*Table 4*) as well unrealistic expectations that the medication will work first time.

Performance anxiety

Men have a refractory period – the period following ejaculation in which further sustained erection is difficult or impossible. This time is relatively short in young men, and gradually lengthens as they age. Studies have shown that sildenafil citrate can reduce post-ejaculatory refractory time in 30-year-old males from 10.8 to 2.8 minutes (Aversa et al, 2000). Consequently, there is concern that PDE-5 inhibitors may be used as recreational, performance-enhancing agents in sexually potent males (Levin, 2003). This concern may explain clinicians' reluctance to prescribe PDE-5 inhibitors for use more frequently than once a week, and may lead to misinterpretation of performance anxiety.

In the authors' clinic, performance anxiety includes some or all of the following elements:

- a recognised event that precipitated sexual dysfunction, e.g. loss of employment, death of a partner or others close to the individual, loss of social status or culture
- fear of humiliation resulting from criticism of performance or self from partner or others
- fear of intimacy, a concern that the relationship will develop, leaving the individual open to fear of rejection or hurt, which may have echoes of behaviour experienced in early childhood relationships
- fear of the consequences of sexual activity, such as sexually transmitted diseases or unwanted pregnancy.
- poor quality erections from other causes.

Once a man perceives that his erection. is of poor quality (defined as inability to penetrate or 'self-assessed' poor quality erection), he focuses on his erection, increasing the pressure on himself to get a firmer erection, and thereby developing performance anxiety. It would be reasonable, therefore, to elicit a more detailed history of the erectile dysfunction, but most men who have experienced long-term erection failure will have performance anxiety.

Treatment options

There are many treatment options for ED (*Table 5*), but the authors believe that the key to successful treatment is joint decision-making between the patient and health professional, open discussion of the relative merits of each medication, and allowing time for the patient (and his partner) to decide which option they wish to choose.

There are three PDE-5 inhibitors currently available: sildenafil citrate, tadalafil (Cialis; Eli Lilly) and vardenafil (Levitra; Bayer HealthCare). Their efficacy can be

variable, depending on patient motivation, patient training and information given. The recent introduction of tadalafil and vardenafil has dramatically changed the profile of erection failure management. While sildenafil has the best evidence for efficacy, the need to plan sexual activity can also exacerbate performance anxiety (DTB Publications, 2004).

The pharmacodynamics of the three drugs (*Tables 6* and *7*) indicate that tadalafil takes the longest to work, but remains in the body for 17.5 hours, although in the authors' clinical experience it can remain effective for up to 36 hours. The advantage of this drug is that it re-introduces spontaneity to sexual activity. However, sildenafil, at a larger dose, has been found to be more effective.

Although PDE-5 inhibitors have revolutionised the management of ED, patients and/or partners often have unrealistic expectations of performance. A clear explanation of how the medication works, i.e. that the first few doses are unlikely to be successful, and that the medication must be taken on at least eight separate occasions, could dispel such misconceptions.

People with diabetes mellitus meet the criteria for NHS prescription of PDE-5 inhibitors, but are restricted to one dose a week. The DoH guidelines fail to recognise the effect that delayed treatment and performance anxiety has on this group of patients. In our clinical experience, patients rarely find the first few doses of any medication successful, and are therefore encouraged to persevere with medication for six to eight doses before considering

Table 5. Treatment options for erectile dysfunction.

Treatment option	Dosage guide	Contraindications
Apomorphine hydrochloride (Uprima)	2 mg sublingual for 2 doses then increase to 3 mg sublingual. Need 6–8 doses before efficacy seen	Unstable angina, renal or hepatic failure
Sildenafil citrate	25–100 mg. Need 6–8 doses before benefits seen. Recommend 100 mg in men with longstanding ED, then titrate according to efficacy	Concurrent use of nitrates, MI (within 3 months), CVA; do not use with nicorandil (lowers BP), some antibiotics, and grapefruit juice. If renally impaired, start at 50 mg
Tadalafil	10–20 mg. Need 6–8 doses before benefits seen. Recommend 20 mg in men with longstanding ED, then titrate according to efficacy	Concurrent use of nitrates, MI (within 3 months), CVA; do not use with nicorandil (lowers BP), some antibiotics, and grapefruit juice. If renally impaired, start at 10 mg
Vardenafil	5–20 mg. Need 6–8 doses before benefits seen. Recommend 20 mg in men with long-standing ED, then titrate according to efficacy	Concurrent use of nitrates, MI (within 3 months), CVA; do not use with nicorandil (lowers BP), some antibiotics, and grapefruit juice. If renally impaired, start at 10mg
Medicated Urethral System for Erections (MUSE) – intra-urethral alprostadil (prostaglandin E1)	250–1000 μg. Essential to massage the intra-urethral medication for up to 10 minutes. Provide a test-dose of 500 μg	Sickle cell disease, or bleeding disorders
Intracavernosal injection of alprostadil (prostaglandin E1) – Caverject, Caverject dual chamber or Viridal Duo	2.5–60 μg. Essential to provide full teaching of injection technique and support/discuss patient anxieties. Provide a test-dose of 10 μg	Warfarin, bleeding disorders
Vacuum devices	Important to teach correct technique and reinforce that the vacuum needs to be inflated slowly	None, but must be competent to remember to remove the constriction ring within 30 minutes
Surgery (prostheses)	Various prostheses available	Depends on fitness for surgery
Psychosexual therapy (behavioural programme with counselling of underlying issues)	Weekly or regular attendance with 'homework'	Lack of acceptance, culturally unacceptable

BP = blood pressure; CVA = cerebrovascular accident; MI = myocardial infarction. (Adapted from Steggall and Gann [2002])

Table 6. Pharmacodynamics of the PDE-5 inhibitors.

	Sildenafil 100 mg	Vardenafil 20 mg	Tadalafil 20 mg
t_{max} (hours)	1.16	0.66	2.0
$t_{1/2}$ (hours)	3.82	3.94	17.5

t_{max} is the time to reach maximum observed plasma concentration
$t_{1/2}$ is the time taken for the plasma concentration to fall to half its maximal value

Source: Pyror (2002)

Table 7. Interaction of the PDE-5 inhibitors with food and alcohol.

Drug name	Dose range	Affected by food?	Affected by alcohol?
Sildenafil	25–100 mg	Yes	Yes
Tadalafil	10–20 mg	No	No
Vardenafil	5–20 mg	No	No

Source: Pyror (2002)

PAGE POINTS

1 It is important to address performance anxiety factors and commence treatment as soon as possible in order to restore function and limit the effects of performance anxiety.

2 The authors recommend eight doses of a PDE-5 inhibitor, with a drug holiday after the sixth to eighth dose if the medication provides a firm erection.

3 The authors also recommend starting with higher doses and titrate down (depending on the success of the drug holiday).

4 It is important not to perpetuate the sense of failure and performance anxiety by starting with a low dose and titrating up.

alternative treatment (Heaton et al, 2002).

We recommend that patients take their prescribed medication more frequently than the prescribing guidelines of one dose a week, in an attempt to reduce the effects of performance anxiety; however, this is dependent on the status of their relationship. The opportunity to discuss the conditions for 'good' sex, such as trust, absence of pain, and intimacy, can also impact on the success of any treatment programme.

Every erection failure experienced by the patient can exacerbate performance anxiety, but early intervention and treatment often helps to reduce this cycle of failure and leads to conditions where erection failure can be treated/managed with 'low-dose' therapy/use of PDE-5 inhibitors. This cycle of failure is exacerbated and reinforced by adherence to the prescribing guidelines, especially dosing level (i.e. titrate up) and frequency of dosing (one dose per week).

The men in the retrospective analysis who had received treatment with PDE-5 inhibitors had followed the one-dose-per-week guide, thereby increasing their performance anxiety. In addition, many men disengaged from therapy after the first or second dose failed to improve their erection, which is a consistent finding in the clinical management of ED (Wagner et al, 2002). This indicates that unrealistic expectations of the medication continue.

The authors' contend that it is important to address performance anxiety factors and commence treatment as soon as possible in order to restore function or limit the effects of performance anxiety and the subsequent need for more invasive therapies.

The strategy is summarised as follows.

- Recommend eight doses of a PDE-5 inhibitor, with a drug holiday after the sixth to eighth dose if the medication provides a firm erection.
- If the medication does not help (after eight doses), refer the individual for advice.
- Recommend the individual takes the medication two to three times a week, or as often as possible (depending on the presence of conditions for 'good' sex), to limit the expectation that the medication is a wonder drug that will always work first time.
- Start with higher doses and titrate down (depending on the success of the drug holiday). It is important not to perpetuate the sense of failure and performance anxiety by starting with a low dose and titrating up.

For those who are able to gain an erection during the drug holiday, the authors recommend that they stop treatment. Those who continue to need medication may need

reassessment and the offer of longer-term psychosexual therapy programmes to enable exploration of any underlying issues.

Conclusion

ED is a common sexual dysfunction in men. One barrier to effective management is not asking at-risk men about sexual function.

The efficacy of PDE-5 inhibitors and patient satisfaction with the results can be improved by adopting the suggested framework of regular dosing, i.e. one dose three times a week. This does not mean that the prescription limit is exceeded: eight doses in 2 months can still be given, but patients will find out quickly if it works for them and thereby limit the effects of performance anxiety.

Failure to acknowledge the effects of performance anxiety and adhering to the prescribing guidelines can result in disengagement from treatment, or changing over to potentially more costly options, such as MUSE (Medicated Urethral System for Erections), intracavernosal injections, a vacuum device or a penile implant.

High-dose medication, or possibly long-acting PDE-5 inhibitors, can help to reintroduce the conditions for 'good' sex by reducing performance anxiety. Whichever medication is selected depends on each relationship. For some men the planning of sexual activity itself is a cause of erection failure; therefore, long-acting PDE-5 inhibitors are more likely to be effective as they fit in with expectations of sexual activity. The key is not to examine the 'evidence' of efficacy for each medication, but to offer choice to the patient so he decides which medication suits him. Each patient must be followed up, within a couple of months, and therefore can be 'safety netted'. If the medication of choice fails then alternatives (i.e. the short-acting PDE-5 inhibitors) can be offered. ■

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