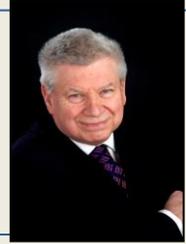


Medicine for Managers

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Erectile Dysfunction

A wise old urologist, on whose firm I found myself as a medical student, said that “95% of men get at least one period of erectile dysfunction in their lives and the other 5% are liars”. Men suffer the problem on occasion through stress, tiredness, excessive alcohol or not being in the mood. However persistent erectile dysfunction probably affects 10% of men at any one time.

The definition of erectile dysfunction is the persistent or recurrent inability to maintain an erection good enough to complete the chosen sexual activity. The definition makes no reference to age because age itself is not a cause of erectile dysfunction, although the risk of failure does increase with increasing age. Around 7% of 25-year-olds and about 20% of 55-year-olds have difficulty in achieving and sustaining an erection. A penile erection is a hydraulic effect of blood entering and being retained in sponge-like structures within the penis.

The causes of erectile dysfunction can be divided into the physical and the emotional.

Physical causes:

(1) Blood vessel disease. Arteries damaged by *atherosclerosis* (hardening of the arteries) or high blood pressure lose the ability to respond to demand for increased blood flow.

(2) Diabetes. The disease may have a profound effect and up to a quarter of all

diabetic men may have difficulties by age 34 and up to three-quarters by age 64.

(3) Smoking may contribute to the problem in up to 80% of cases.

(4) Nerve disorders such as multiple sclerosis, Parkinson’s disease and stroke

(5) Persistent Heavy drinking. This may damage nerves and reduce testosterone production.

(6) Medicinal side-effects. Prescribed drugs for blood pressure, heart disease and cancer are amongst those which can cause or exacerbate erectile dysfunction and up to 30% of all cases may have a medication component.

(7) Prostate surgery. Up to one-third of men having the complete removal of the prostate gland in the treatment of prostatic cancer will suffer erectile dysfunction.

(8) Spinal Cord Injury Over 20% of men with spinal cord injury have erectile dysfunction

(9) Cycling for more than three hours a week may damage key blood vessels.

(10) Direct penile damage. The consequence of damage or surgery.

Hormonal Conditions.

Erections may fail if there are hormonal disturbances. Low testosterone, raised or lowered thyroid hormone levels or the steroid hormone levels produced by the adrenal glands may all result in erectile dysfunction or failure.

Psychological Causes:

(1) Stress, anxiety and depression

(2) Not being happy with the partner.

These relational conflicts may result from the upset associated with disputes or simply not finding him or her attractive.

(3) Sexual Orientation usually unresolved.

Medication Causes.

A whole host of commonly used medication may result in erectile problems. These include beta-blocking drugs, used in the treatment of high blood pressure, diuretics, antidepressants, drugs to treat epilepsy, steroids and fibrates which are used to lower cholesterol levels. Cytotoxic drugs used for chemotherapy may also cause the problem.

Distinguishing the physical and psychological.

A simple way of testing is to see whether erections can be obtained under any circumstance. If an erection can be achieved by masturbation, or if the individual wakes with an erection, or has them during the night (dramatically called *nocturnal penile tumescence*), then the problem is psychological.

How does an erection work.

It is really a very clever mechanism. It is initiated in one of two ways; direct contact with the penis or erotic stimuli (psychogenic stimulation). The direct contact is mediated through nerves in the spinal cord, the erotic stimuli through part of the brain called the limbic system. The nervous stimulation results in the release of chemical which relaxes the involuntary muscle in the spongy erectile tissue of the penis (corpora cavernosa) which fill with blood producing an erection. Testosterone hormone, produced by the testes, and normal pituitary gland function are required for the healthy normal function of erectile tissue. Normal nerve activity, blood flow and hormonal support are therefore needed for an erection.

Treatment of Erectile Dysfunction.

The first line of treatment of the condition is to undertake a physical examination to establish whether there are any physical causes that might be responsible for contributing to the difficulty. Any reversible cause should be addressed. This may involve lowering blood pressure, gaining better diabetic control, stopping smoking, reducing weight and taking exercise, reducing alcohol consumption and a review of medication to identify any drug that might lead to erectile dysfunction and which can be replaced by a suitable alternative. If possible, stress should also be reduced.

There are a number of medical approaches to erectile dysfunction.

(1) Vacuum Pumps. They consist of a plastic cylinder, which fits over the penis, attached to a vacuum pump which may either be electric or hand operated. The pump creates a vacuum which draws blood into the penis and produces an erection. An elastic ring is then placed round the base of the penis allowing the maintenance of an erection during intercourse. The system may be effective once the man is used to using it. Perhaps the most marked disadvantage of the system is that the erection is 'cold' because the blood does not fill the penis through the normal vasodilation.

(2) Alprostadil. This synthetic hormone helps to stimulate blood flow to the penis and can be administered either by inserting a pellet of the drug into the urethra via the tip of the penis or by injecting the drug into the root of the penis. Again the technique is effective in most men who use it and is an option in those men for whom other methods are inappropriate.

(3) Penile Implants. As the name suggests these are implants that can be inserted into the penis. They may be semi-rigid or inflatable. The latter type gives a more natural erection. The technique is expensive to provide but the majority of men for whom the system is provided report being satisfied with the technique.

(4) Phosphodiesterase-5 Inhibitors. This group of drugs is now widely used to treat erectile dysfunction. Often referred to as 'Viagra', in fact there are a number of such

drugs available in the UK. The principal ones are:

Viagra (sildenafil)

Cialis (tadalafil)

LeVitra (vardenafil)

Others are available.

All the drugs take between thirty and ninety minutes to have an effect and their rate of absorption is influenced by the timing of consumption of food.

Sildenafil and vardenafil have an effect which lasts between five and eight hours. Tadalafil last for up to thirty-six hours and may be more useful in some circumstances.

The drugs are used widely across the male population but there are a number of contra-indications to their use.

- A history of cardio-vascular disease including a recent stroke, heart attack or angina.
- A history or risk of *priapism*. This is a persisting erection that lasts several hours and brings with it the risk of thrombosis in the penis.
- Low blood pressure

The incidence of side effects is low but they may cause headache, flushing, nausea or sickness, nasal congestion or muscle pains. Occasionally they may induce a migraine.

The drugs are expensive and generally available on private prescription although some patients may have the medication on NHS prescription. Such patients include those with diabetes, Parkinson's disease, prostate cancer and spina bifida.

Sildenafil has recently come off patent and is now available much more cheaply as generic sildenafil.

Psychological Treatment.

For some men, in whom there is an underlying psychological cause for the dysfunction, or who are suffering from anxiety or depression, some form of psychosexual counselling may be helpful. Cognitive Behavioural Therapy may also be useful.

Self-Help.

There is no doubt that the anxiety that is associated with erectile failure is a profound reason for maintaining the problem. The concerned man should see his doctor to discuss the problems and for simple physical causes to be eliminated. However, it is often helpful to discuss the problem, not only with the partner, but perhaps with a close male friend. Sometimes personal relationships with a wife or partner are placed under additional strain because of the suspicion on the part of the woman that a failure to obtain an erection may be associated with having an affair. The important thing is to be open and honest and seek as much support as possible. Patients are advised to concentrate on other forms of romantic relationship and less on 'trying' to have intercourse. Pornography, erotic clothing and the employment of fantasy activities are generally unsuccessful.

With modern techniques, and certainly since the development of *Viagra* and the drugs which have followed it, it is now possible to restore erectile function in most of the men for whom erectile failure is a problem.

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