Erectile Dysfunction in Primary Care

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Erectile Dysfunction

- Definition
- Prevalence
- ED in Primary Care
- Causes of ED
- Treatments of ED

Definition of Erectile Dysfunction (ED)

- “The inability to attain and/or maintain penile erection sufficient for satisfactory sexual performance for three months”
### Prevalence of ED

- 20-30 million men in the US suffer from ED
- 5-10% actually seek treatment
- 39% in men between ages 40-50 (Massachusetts Male Aging Study)
- 70% in men over 70 (Feldman et al. 1994)

### ED in Primary Care

ED significantly affects self-esteem, self-confidence, and quality of life for men and their partners

ED usually has an organic basis

ED may signal or accompany serious systemic illness, e.g. diabetes, hypertension, cardiovascular disease

25-35% with mixed ED (Psych/Org)
ED in Primary Care

- Primary care providers are the point of first contact with the health care system.
- The care may be episodic or involve only a single visit.
- Usually the PCP/PA/NP provides continuous and comprehensive care for patients.

FM provider is “expected to do everything”

- Advisor
- Social worker
- Advocate for the pt.
- Religious counselor
- Confidant
- Trusted clinician

Factors affecting Provider's Priorities

- Problems with high morbidity and Mortality
- Disabling conditions
- Standard of care and guidelines
- Patient demands
- Personal areas of interest
- Quality of life issues
Provider's reasons for not addressing sexual problems

- ED will become too complex
- Time consuming
- Adequate reimbursement

Discussing Sex in the Office

Both patients and providers have difficulty addressing sexual matters
- Both are usually embarrassed
- Pts. fear that their concerns won't be taken seriously
- Men seeking support tend to be indirect rather than straightforward. "Door knob complaint"
Discussing Sex in the Office

- Visit time
- Lack of male provider
- Personal barriers;
  - sense of immunity
  - difficulty in relinquishing control
  - belief that seeking help is unacceptable

Discussing Sex

- 70% of pts consider sexual matters to be appropriate topic for their provider to discuss
- Documented sexual problems discussion is as few as 2% in providers notes (Read et al. 1997).

Discussing Sex

- Most men are comfortable and willing to discuss their sexual function with provider. (Sandman et al. Commonwealth Health Survey. 1998)
- Books, not health professionals are the #1 source of sex information for people >45 years. (Jacoby 1999)
Reasons why sex questions should be asked

- Sexual issues are important at all stages of life
- Sexual dysfunction is common
- Sexual function is related to good health.

Reasons why sex questions should be asked

- Opportunity to provide STD prevention
- Disrupted sexual function may be symptom of disease or a side effect of treatment.
- Past sexual history may help explain ED.

Discussing sexual matters: Your approach sets the tone
Discussing sexual matters: Your approach sets the tone
- Take the initiative
- Use language that is simple and direct.
- Maintain a sense of privacy and confidentiality
- Keep your attitude nonjudgmental, caring and respectful

Discussing sexual matters: Your approach sets the tone
- Provide explanations and allow for questions.
- Acknowledge and explore patient's responses.
- Promote optimistic attitude.

Men’s misconceptions about ED
- Matters related to sexual dysfunction are taboo.
- Loss of erection is not common.
- ED is a normal part of aging.
- ED is primarily psychological not physical.
- Treatment is too expensive.
Causes of ED

“The penis is like a window to the rest of the body. Whatever is happening there could be happening elsewhere.”

Tom Lue, M.D., professor of Urology at the University of California, San Francisco.

Organic Causes for ED

- Hypertension
- Hyperlipidemia
- Hypogonadism
- Endocrine disorders
- Smoking
- Alcohol abuse
- Drug abuse
- Trauma or surgery to the pelvis or spine
- Coronary artery or peripheral vascular disease
- Peyronie’s Disease
Psychogenic Causes for ED

- Anxiety.
- Depression.
- Concern about poor sexual function.
- Previous traumatic sexual experience.

Iatrogenic Causes for ED

- Certain medications.
- Pelvic surgery.
- Prostate surgery.
- Vascular bypass surgery.

Drugs Associated with ED

- Cardiovascular medication: H2-receptor blockers, antihypertensives, B-blockers, spironolactone, lipid-lowering agents, diuretics.
- Psychotropic, especially antidepressants.
- Other medications: estrogens, antiandrogens, anticholinergics, ketoconazole, NSAIDS cytotoxics.
- Abused drugs: alcohol, marijuana, narcotics, tobacco, cocaine.
**Reversible Causes of ED**

- Stop substance abuse (etoh, tab, elicit drugs).

**Reversible Causes of ED**

- Medications;
  - Stop the use of OTC decongestants (Sudafed).
  - Change antihypertensives to "penile friendly meds" ca channel blockers, ace inhibitors.

**Sex and the Heart**
Sex and the Heart

- Sexual activity is in general a weak precipitant of coronary events.
- Sex imposes a moderate metabolic stress on the heart.
- The absolute hourly risk of MI induced by sexual activity is low.
- The # of METS expended with Sexual activity is 2-5.

Sex and the Heart: Who to Treat and Who to Refer

- The Princeton Guidelines address this issue.
- Patients can be categorized into three general cardiovascular risk classifications;
  - Low, Intermediate, or High risk

Sex and the Heart: Who to Treat and Who to Refer

- Low Risk Group;
  - Asymptomatic for CAD with <3 major risk factors for CAD excluding gender.

  - Men with controlled HTN; mild, stable angina; successful coronary revascularization; past history of uncomplicated MI; mild valvular disease; no to minimal CHF symptoms.
Sex and the Heart: 
Who to Treat and Who to Refer

Low Risk group:
  - Management recommendations for ED is primary-care management.
  - Consider all first-line therapies.
  - Reassess at six month intervals.

Intermediate Risk Group:
  - >3 risk factors for CAD excluding gender
  - Moderate stable angina
  - Recent MI (>2 weeks, < 6 weeks)
  - Class II CHF
  - Noncardiac sequelae of ASD such as PVD and stroke

Intermediate Risk Group Management:
  - Specialized cardiovascular testing such as exercise stress testing, echocardiogram.
  - Based on results of above tests, patients are then restratified into high or low risk group.
Sex and the Heart: Who to Treat and Who to Refer

High Risk Group:
- Unstable or refractory angina.
- Uncontrolled HTN.
- CHF class III or IV.
- Recent MI (< 2 weeks) or stroke.
- High risk arrhythmias.
- Hypertrophic obstructive and other myopathies.
- Moderate/severe valvular disease.

High Risk Group Treatment:
- Patients should receive priority referral for specialized cardiovascular management.
- Treatment of ED is deferred until the cardiac condition is stabilized based on the cardiologist recommendation.

In General:
- High risk patients should be referred to cardiology.
- Intermediate risk patients maybe referred depending upon need for specialized testing.
- Low risk patients don’t need to be referred to cardiology in order to manage their ED.
Treatment Options for ED

- Psychosocial counseling
- Vacuum pumps and constriction devices
- Hormonal replacement
- Oral Medication
- Injectable medication
- Vascular Surgery
- Penile implants
Vacuum Constriction Devices

- Most common device used for ED
- No tests required beyond initial evaluation
- High success rate and patient satisfaction.
  - 90% achieved erections sufficient for intercourse
  - 80% of patients continue use after 1 year.
- Adverse events
  - Hematoma, ecchymosis and petechiae
  - Pain, numbness of penis, blocked and/or painful ejaculation, pulling of scrotal tissue into vacuum cylinder.

Hormonal Therapy

- Androgenic steroids
  - May be effective in a small fraction of ED patients with documented hypogonadism
  - Oral, parenteral, transdermal preparations available

- Exogenous Testosterone caveats
  - Can suppress remaining endogenous androgen production
  - May be metabolized to estradiol with potentially detrimental effects on sexual function
  - May increase risk of Prostate hypertrophy and cancer.
Vasoactive Intracavernosal Pharmacotherapy:

- Many types of drugs used for injections.
- Either combinations or individually.
- Papaverine, Phentolamine and Alprastodil (Caverject), and Nitroglycerin widen blood vessels.
- An erection begins within 8-10 min.

Vasoactive Intracavernosal Pharmacotherapy: Disadvantages

- Poor long-term tolerability: Many patients stop therapy during the first year.
- Adverse effects
  - Bruising.
  - Prolonged erection
  - Induration, plaque or nodule.
  - Pain.
  - Curvature of the penis.
  - Superficial infection.
  - Dizziness.
Oral Pharmacological Treatment for ED

Over The Counter
- Lots of promises, few results
- Yohimbine (Yocon)
  - From bark of an African tree
  - Take 3 times a day
  - ? Improvement after one month
- Rx Medications
  - Sildenafil Citrate (Viagra).
  - Vardenafil (Levitra).
  - Tadalafil (Cialis).

Phosphodiesterase type 5 (PDE5) Inhibitors.
- Sildenafil Citrate (Viagra)
- Vardenafil (Levitra)
- Tadalafil (Cialis)

Cellular Mechanism of Erection

Sexual Stimulation
↓
→
↓
↑
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Activates Guanylate Cyclase enzyme
Nitric Oxide Production from endothelial Cells in Corpus Cavernosum
Erection
PDE5 inhibitor increases concentration of cGMP
Increased production of cGMP within the corpus cavernosum
Smooth muscle relaxation allowing increase blood flow into penis
Sildenafil Citrate (Viagra)

- Started out as an antiangina/antihypertensive medication

- Phosphodiesterase type 5 (PDE5) Inhibitor.

- Decreases BP by (8-10 mm Hg systolic, 5-6 mm Hg diastolic)

Sildenafil Citrate (Viagra)

- Needs to be taken on an empty stomach.

- Usually works after 30 min to 1 hr after ingestion.

- Need Sexual stimulation to work.
Tadalafil (Cialis)

- PDE5 Inhibitor.
- Duration of Action up to 36 hours.
- No visual disturbance.
- Onset of Action 30 minutes to 1 hr.
- Not affected by food.

Tadalafil (Cialis)

- Start at 10 mg qd. Titrate up or down as needed.
- Contraindicated with Nitrates and Alpha blockers other than Tamsulosin (Flomax) and Anti-retroviral protease inhibitors.
**Tadalafil (Cialis) Side Effects**

- Priapism
- Headache
- Dyspepsia
- Back pain
- Nasal Congestion
- Flushing
- Myalgias

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**The New York Times**

**Fri, July 18, 2003**

THE MEDIA BUSINESS: ADVERTISING;
A new rival to Viagra enlists the N.F.L.
to put a masculine face on a sensitive subject.

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**Vardenafil (Levitra)**

- PDE5 Inhibitor.
- Duration of Action up to 4-6 hr.
- No visual disturbance.
- Onset of Action 30 minutes to 1 hr.
Vardenafil (Levitra)

- Start at 10 mg qd. Titrate up or down as needed.

- Contraindicated with Nitrates and Alpha blockers other than Tamsulosin (Flomax) and Anti-retroviral protease inhibitors.

Vardenafil (Levitra)

- Priapism
- Headache
- Dyspepsia
- Back pain
- Nasal Congestion
- Flushing
- Myalgias

Surgery
**Future Treatment**

- Sublingual apomorphine (Uprima)
  Nonopiate central dopamine agent
  Withdrawn from the market- Syncope

- Oral phentolamine (Vasomax)
  Alpha-adrenoreceptor antagonist
  Nausea and vomiting

**Lab Studies Prior to Referral**

- CBC
- LYTES
- RBS
- LIPIDS
- AST/ALT
- UA
- TSH
- BUN/CR
- PSA
- AM TESTOSTERONE
- PRL