How To Assess The Patient With Erectile Dysfunction

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Erectile function

To achieve an erection:

- Desire/ libido
- Correct psychological environment
- Correct hormonal environment
- Good nerve supply
- Good blood supply
- Effective vascular structure to stop detumescence.
Assessment tools

- Sexual history
- Medical history
- Drug history
- Clinical examination
- Blood tests
- Additional tests if necessary
Assessment

- What is the problem?
- Possible causes?
  - Pre-existing conditions?
  - Underlying undiagnosed conditions?
- Modifiable factors?
- Expectations?
- Treatments
  - Suitability (for patient and partner as well as contraindications)
What is the problem?

“How come we never collide with the burning heat of a thousand fires?”
What is the problem?
The nature of the problem

- Arousal problems
- Difficulty achieving erections
- Difficulty maintaining erections
- Inability to orgasm
- Inability to ejaculate
- Painful ejaculation
Possible causes?
Pre-existing conditions?

- Sexual, drug and medical history
  - Is there already a condition present that could cause ED?
  - Are they taking drugs (prescribed or otherwise) which could be causing ED?
  - Is there something in their sexual history or current situation affecting their sexual function?
History

It’s really important to take a full history:

- Nature of problem
- Onset
- Duration
- Libido
- Relevant medical history
- Surgery
- Drug history
- Social history
History - Psychogenic or Organic

**Organic:**
- Gradual onset
- Lack of tumescence
- No EME
- Normal ejaculation
- Normal libido
  (except hypogonadal men)
- Risk factors
  (Diabetes, Cardiovascular, etc)
- Surgery / radiotherapy
- Medications
- Smoking / Alcohol / Drugs
History - Psychogenic or Organic

**Psychogenic:**
- Sudden onset
- Early loss of erection
- Good EME
- Erection on self stimulation
- Premature ejaculation
- Relationship issues
- Stress
- Psychological problems
<table>
<thead>
<tr>
<th>Cause</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Psychological              | • Stress  
• Anxiety and depression  
• Anger  
• Guilt  
• Low self esteem  
• Relationship problems  
• Intimacy issues  
• Performance anxiety  
• Psychological trauma or abuse |
| Hormonal                   | • Low testosterone  
• Hypothyroidism  
• Pituitary dysfunction |
| Vascular                   | • High blood pressure and atherosclerosis  
• Diabetes  
• Previous heart attack/ cardiovascular disease  
• High cholesterol  
• Smoking  
• Pelvic radiotherapy |
| Neurological               | • Spinal cord injury  
• Diabetes  
• Parkinson’s disease  
• Multiple sclerosis  
• Pelvic surgery  
• CVA  
• Pelvic fracture |
| Anatomical or acquired     | • Peyronies disease  
• Penile carcinoma |
| Drugs                      | • Some antihypertensives  
• Some antidepressants  
• Some antacids  
• Statins  
• Alcohol  
• Opiates  
• Cocaine, marijuana and amphetamines |
Possible causes?
Underlying undiagnosed conditions?

- Cardiovascular disease
- Diabetes
- Neurological (eg Parkinsons, MS)
- Endocrine
- Peyronnies disease
Possible causes?
Underlying undiagnosed conditions?

- History and examination
  - Is there an undiagnosed reason for the ED:?
    - Breast, hair distribution, testis, thyroid
    - Femoral and pedal pulses
    - DRE, genital and perineal sensation
    - Penile abnormalities
    - Bloods
## Hypogonadism

<table>
<thead>
<tr>
<th></th>
<th><strong>Primary (raised LH, low Testosterone)</strong></th>
<th><strong>Secondary (low LH, low testosterone)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Congenital</strong></td>
<td>Hypergonadal hypogonadism</td>
<td>Hypogonadal hypogonadism</td>
</tr>
<tr>
<td><strong>Acquired</strong></td>
<td>Undescended Testes</td>
<td>Tumours of hypothalamus/pituitary</td>
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<tr>
<td></td>
<td>Bilateral torsion</td>
<td>Trauma</td>
</tr>
<tr>
<td></td>
<td>Radiotherapy</td>
<td>Infarction of pituitary</td>
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<tr>
<td></td>
<td></td>
<td>Radiotherapy to pituitary</td>
</tr>
</tbody>
</table>
Modifiable factors?

- Stress
- Smoking
- Alcohol
- Drug use
- Prescription medication
- Weight
- Relationship
Problems with orgasm and ejaculation

- Reduced ejaculatory volume
  - Age
  - Radiotherapy
  - Hormone therapy

- Absent ejaculate
  - Following TURP (retrograde ejaculation) or radical prostatectomy
  - Due to prostate cancer affecting seminal vesicles
  - Diabetes or other neurological damage to the bladder neck

- Painful ejaculation
  - Following radical prostatectomy
  - Prostatitis
Is treatment wanted or necessary?

- Some patients may just need explanation of problem and reassurance
- Consider partner views/relationship
- Expectations: what is realistic?
INVESTIGATIONS

- Testosterone (LH & FSH, prolactin if Testosterone is low)
- Full blood count
- Cholestrol
- PSA
- Glucose
- Liver function tests
Normal Values

- **Testosterone**: 10.5 – 36.0 mmol (however men can have a Testosterone of 13 but be symptomatic.)
- **FSH**: 1.4 - 12.4
- **LH**: 1.5 - 8.6
- **Prolactin**: 98 - 456
- **PSA**: Is age specific. If raised for age group refer to a Urologist:
  - Age 40-50: 2.5
  - 50-60: 3.5
  - 60-70: 4.5
  - 70+: 6.5
Advanced Investigations

- May benefit some patients
- Nocturnal penile tumescence test may differentiate psychogenic from vascular insufficiency
- Vascular testing may select patients for surgery
Nocturnal Penile Tumescence
NPT study

- Detects presence of nocturnal erections

- Normal Rigiscan Values
  - Number of erections/night 3-6
  - Duration of erection 10-15 mins
  - Tumescence – Tip 2cm, Base 3cm
  - Rigidity >70%
Rigiscan® tracing of a 35-year-old man with normal tumescence and penile rigidity

Rigiscan® tracing indicative of an organic cause of erectile dysfunction
Penile Doppler Ultrasound

- Used for Identifying vascular ED
- Patient is given an injection of Prostaglandin E₁.
- The velocity of blood within the cavernosal artery during systolic and diastolic phases is recorded.
Penile Doppler Ultrasound

- **Normal values**
  - Peak systolic velocity > 35 ml/s
  - End diastolic velocity < 5 cm/s

- **Abnormal Values**
  - Peak systolic velocity < 25 cm/s
  - End diastolic velocity > 7 cm/s
Penile Doppler Ultrasound
Cavernosography

- Injection of radio-opaque contrast into corpora following induction of artificial erection.
- Helps provide anatomical information
- NOT USED VERY OFTEN
Cavernasogram
Conclusion

There are many causes of erectile dysfunction, therefore an accurate and comprehensive history taking and assessment is paramount in making an accurate diagnosis and providing the appropriate treatment option.
Questions?