Brachytherapy
Erectile Dysfunction

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CMFT
Brachytherapy & ED

- Introduction
- Incidence
- Prediction
- Assessment
- Treatment
- Summary
Incidence

• 17% @ 2yrs ¹
• 40% @ 3-5 yrs ²
• 50% @ 3 yrs ³
• 49% @ 5 yrs ⁴
• 44% @ 6 yrs ⁵

(23% ED pre Rx)

2. EAU Guidelines 2009
Erections at 1 Year

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brachytherapy</td>
<td>0.76</td>
</tr>
<tr>
<td>EBRT</td>
<td>0.55</td>
</tr>
<tr>
<td>Nerve sparing RRP</td>
<td>0.34</td>
</tr>
<tr>
<td>Standard RRP</td>
<td>0.25</td>
</tr>
<tr>
<td>Cryotherapy</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Prediction

“Is it possible to predict those patients who will be at a greater risk of developing erectile dysfunction following brachytherapy?”
Risks

• Age
• Diabetes
• Hypertension
• Prostate size
• Dose to proximal penis
• Low IIEF score pre Rx
• Infrequent nocturnal erections

Mummy, where does poo come from?

Well, food goes into our tummies, our bodies take out the good stuff, and whatever’s left comes out of our bottoms.

and what about Tigger?
Assessment

- International Index of Erectile Function: IIEF 5 point
- Assesses previous 6 months
- Max score: 25
- Cut off: 21/25
  - Sensitivity: 98%
  - Specificity: 88%

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When you attempted intercourse, how often were you able to penetrate (enter) your partner?</td>
</tr>
<tr>
<td>2</td>
<td>During sexual intercourse, how often were you able to maintain your erection after you had penetrated, (entered), your partner?</td>
</tr>
<tr>
<td>3</td>
<td>During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?</td>
</tr>
<tr>
<td>4</td>
<td>When you attempted sexual intercourse, how often was it satisfactory for you?</td>
</tr>
<tr>
<td>5</td>
<td>How do you rate your confidence that you could get and keep an erection?</td>
</tr>
</tbody>
</table>

Therapy

• 1\textsuperscript{st} line
  • Risk factor modification
  • PDE V Inhibitors

• 2\textsuperscript{nd} line
  • IC PG
  • Vacuum device

• 3\textsuperscript{rd} line
  • Penile prosthesis

Level of Evidence

1. Hatzimouratidis et al Eur Urol 2010
2. EAU Guidelines 2009
First Line !?
Risk Factor Modification

- Exercise
- Weight loss
- Stop smoking
- Lower cholesterol

Level of Evidence 1b

1. Derby et al Urology 2000
2. EAU Guidelines 2009
# PDE v Inhibitors

<table>
<thead>
<tr>
<th></th>
<th>Sildenafil</th>
<th>Tadalafil</th>
<th>Vardenafil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid food</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Avoid alcohol</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Time to effect</td>
<td>30 – 60mins</td>
<td>30mins</td>
<td>30mins</td>
</tr>
<tr>
<td>Window</td>
<td>12 hrs</td>
<td>36 hrs</td>
<td>12-14 hrs</td>
</tr>
<tr>
<td>Start dose</td>
<td>50mg</td>
<td>10mg</td>
<td>10mg</td>
</tr>
<tr>
<td>Response rate</td>
<td>77%</td>
<td>67%</td>
<td>76%</td>
</tr>
<tr>
<td>Other doses</td>
<td>25mg, 100mg</td>
<td>5mg, 20mg</td>
<td>5mg, 20mg</td>
</tr>
<tr>
<td>Response rate</td>
<td>56%, 84%</td>
<td>81%</td>
<td>66%, 80%</td>
</tr>
</tbody>
</table>

- **Sildenafil**
- **Tadalafil**
- **Vardenafil**
PDE V I Administration

- Medication pedigree
- Patient education
- Dose frequency
PDE V I Administration

• Patient education
  – Timing
  – Dosage
  – Stimulation
  – Treatment attempts
  – Food & drug interactions
  – Frequency
Dose Frequency

• Daily
  • Improved response (IIEF)¹
  • Prevents endothelial ischaemic change ²,³,⁴
  • Well tolerated ⁵,⁶
  • Enhanced spontaneity
  • Patient preference ?? ⁷
  • Licensed for Tadalafil (5mg)

• Immediately
  • Increases recovery rates ⁸

Caverject® Dual Chamber
20 micrograms
Powder and solvent for solution for injection
Alprostadil
For intracavernous use
0.5 ml

PHARMACIA
**Intracavernosal PGE**

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<tbody>
<tr>
<td><strong>Patient satisfaction</strong></td>
<td>87 – 94% (^{1,2,3})</td>
</tr>
<tr>
<td><strong>Partner satisfaction</strong></td>
<td>86 – 90% (^{1,2,3})</td>
</tr>
</tbody>
</table>

Level of evidence : 1b

2. Porst J Urol 1996
Vacuum Device

<p>| | |</p>
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Patient satisfaction</td>
<td>98%</td>
</tr>
<tr>
<td>Partner satisfaction</td>
<td>85%</td>
</tr>
</tbody>
</table>

Level of evidence : 4

1. Deroute et al Andrologia 1996
Beware the penile constriction “aid”

Penis only!!
3rd Line
Penile Prosthesis
Penile Prosthesis

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<thead>
<tr>
<th>Patient satisfaction</th>
<th>69 - 95% ¹,²,³,⁴,⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner satisfaction</td>
<td>75 – 96% ¹,⁴,⁵</td>
</tr>
</tbody>
</table>

• Complications
  • Infection
  • Erosion
  • Mechanical failure
  • Pain
  • Spontaneous inflation
  • Trauma

Level of evidence: 4

1. Bettochi et al J Sex Med 2010
"I had my husband laminated. I thought it might make him last longer."
Summary

- High incidence
- IIEF
- ED prediction
- Risk factor modification
- Staged therapy
  - Pharmacotherapy
  - PG/Vacuum
  - Penile prosthesis
Mancunian Husband of the Year
2010

Thank you