Management of Infectious and Non-infectious complications of penile implants

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Infections

• Still a significant concern
• Different risks for virgins and revisions
• Comorbidities play a role
  – Diabetes Mellitus
• Improved outcomes with coated implants
• Improved techniques with evolution
• Current rates vary
  – Not 0%! 
Infections
Clinical Manifestations

• Pain
  – Cylinders
  – pump
• Erythema
• Induration
• Fixation
  – Pump fixation to skin
• Drainage
  – purulent
Early Presentation

Remove only – VS - Remove and Salvage Placement
Choices

- **Removal**
  - When to place implant
- **Salvage Prosthesis**
  - Malleable
  - Inflatable
- **Stimulan**

Gross, M; Levine, L; Carrion, R; Eid, J, Martinez, D; Perito, P; Munariz, R. ISSM Abstract #045, Improved Infection outcomes after mulcahy salvage Procedure and replacement of infected IPP with malleable prosthesis.
THE CARRION CAST: AN UPDATE ON THE USAGE OF THE INTRACORPORAL ANTIMICROBIAL DOPED SPACER FOR THE TREATMENT OF PENILE IMPLANT INFECTION

Daniel R. Martinez, Eihab Alhammali, Justin Emtage, Justin Parker and Rafael E. Carrion
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• Penile prosthesis infection risk → 1–3%
  – “No touch” → 0.7%
• Devastating complication
  – Decrease penile size
  – Increase pain
  – Loss sexual function
• Management
  – “Mulcahy Salvage Protocol”/Immediate Implant
  – Removal/Delayed Implant
  – “Carrion Cast”/Delayed Implant

• Updated series
  – “Carrion Cast”/Antimicrobial spacer
  – Maintains size
  – Treating infection
  – Bridging gap between explant and reimplant

• Not candidates for immediate salvage
  – Failed immediate salvage
  – Bacteremia/septicaemia
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• 5/2012 - 2/2014
• 9 cases
  – 5 Coloplast Genesis Semirigid Penile Prosthesis (SRPP)
  – 2 Coloplast Titan Inflatable Penile Prosthesis (IPP)
  – 2 narrow SRPP’s
    • Size range → 17cm to 23cm
• CaSO₄ cast size
  – 20-30cc, split between corpora
• Serum calcium, vancomycin and tobramycin levels → stable
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- Time to reimplantation
  - 6-18 weeks
    • 6 weeks → cast dissolves
- All had prosthesis replaced
  - 1 SRPP
  - 3 IPP’s
  - 2 narrow SRPP’s
  - 1 narrow IPP
    • Size range → 17cm - 20cm
- Mean loss prosthesis length → 1.1cm
- Average penile length maintained → 95%
Infections

North American Consensus Document on Infection of Penile Prostheses


Surgical Approach

• 2 Standard Approaches
  – Penoscrotal
    • Better corporeal exposure (fibrosis)
    • No dorsal nerve injury
    • Pump fixation possible
  – Infrapubic
    • Reservoir placement under direct vision
    • Can be more efficient
  – Subcoronal
    • Only for malleable
Surgical Approach: Complications

- 2 Standard Approaches
  - Penoscrotal
    - Higher risk of bleeding and complications associated with pump and tubing
    - More difficult to place reservoir or requires counter incision
  - Infrapubic
    - Injury to Dorsal neurovascular bundle
    - Suboptimal pump placement (underestimated)
Hematoma
Preventive Strategies

- Henry Mummy Wrap
- Closed Suction Drain
  - Blake (round)
  - Jackson Pratt (flat)
- Sealants
  - Evicel
  - Tisseal
- Sand Bags
- Keep Implant Inflated for period of time
- Many types of pressure dressings
Complications
(Intra-op and Post-op)

• Mechanical
  – Autoinflation
  – Aneurysm/Sigmoid Deformity
  – Leakage
  – **Difficulties dilating (underestimated)**
  – **Perforation/ Erosion (related to dilation)**
  – **Improper Sizing (poss related to dilation)**
  – Difficulties inflating/deflating
  – Cross-over
Inadequate Dilation
Distal Crossover
Patient “A”

Incorrect Dilation/Sizing, High Riding Pump
Patient “A”
Patient “A”
Perforation

- Can occur distal, proximal, lateral
- What do you do?
- Wind sock (Gortex, Dacron, Tissue)
- Repair Corpora
- Suture in rear tip
IMPLANT PERFORATION

- PROXIMAL
  - CAN CONTINUE WITH SURGERY
  - USE CONTRALATERAL CORPORA TO SIZE IMPLANT
  - DIFFERENT SURGICAL TECHNIQUES DESCRIBED TO CORRECT DEFECT:
    - SUTURE SLING
    - DACRON SOCK

2-0 PROLENE GOING THROUGH TUNICA-REAR TIP-TUNICA
IMPLANT PERFORATION

• DISTAL
  • GENERAL RECOMMENDATION TO ABORT PENILE IMPLANTATION
    • REMOVE CONTRALATERAL CYLINDER (if already placed)
    • PLACEMENT OF FOLEY CATHETER (3-5 DAYS)
    • ORAL ANTIMICROBIAL THERAPY

• SPECIAL CASES IMPLANT CAN STILL BE PERFORMED
  • SEVERE FIBROSIS IN WHICH THE CORPORAL BODIES ARE SEPARATE CHAMBERS
  • REVISION SURGERY
Impending Distal Erosion
Patient with impending distal lateral cylinder erosion
Implant tip removed and incision made through medial floor of tunica
Dilation of new corporal space
Implant re-inserted and inflated, Tutoplast is placed over the distal edge of tunica and sewn to the lateral edges.
Trying to Prevent!
Complications-Erosion (Proximal)
Complications - Erosion (Proximal)
No Proximal Perforation!
Newer Diagnostic Modalities
Complications - Erosion

Management Scheme for This Case?
Reservoir Issues

• Removal during revision surgery
  – Perils of injury to bladder, bowel, vessels
  – When to decide to deactivate the reservoir

• Placement during virgin cases
  – Space of Retzius
  – Ectopic placement
  – Improper position
Reservoir Placement
Caution when Removing!
Complications - Erosion
Selective CT image of the perineal placed reservoir as demonstrated by the red arrow
Obrigado!