The Role for Reconstructive Surgery in Neurological Patients with Bladder Dysfunction

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Figure 1. Schematic representation of the technique of synchronous combined video pressure-flow cystourethrography.
Rules of the Bladder

• Low Pressure Storage

• Complete Bladder Emptying
Indwelling catheters - Urethral

- For short-term use only
- Damage both the male and female urethra
- Should be replaced by a suprapubic as soon as practicable
Not everything is as it appears!
The dilated or eroded urethra

- Change to an SP catheter
- Cleise rather than close
- As a last resort close the urethra below
Long-term catheters - alternatives

Consider the alternatives to long-term catheterisation:

• intermittent catheterisation
• condom drainage in the male
• urinary diversion
• urinary tract reconstruction with or without CISC
Consider condom drainage as an alternative to a catheter in a male
Detrusor Hyperreflexia
CMG demonstrating poor bladder compliance
The Neuropathic Bladder with Right Reflux
VUR in SCI

- Reflux treated by STING procedure
- 1-1.5ml injected under the UO
- 70% successful sure of VUR
For the dilated upper tract

• How to manage?

• Check renal function
• Do primary US
• Drain the bladder for 2 weeks
• Check the upper tract with US
For the dilated upper tract

- If the upper tract returns to normal with renal dysfunction – it’s the pressure that’s the problem – Botox or Clam

- If the upper tract still dilated it’s the bladder wall that’s the problem – Clam plus reimplant
Urodynamic effects of “clam” ileocystoplasty

– reduction in maximum detrusor pressure from 102 ± 36 cmH20 to 18±11 cmH₂O

– increase in bladder capacity from 156 ± 85ml to 578 ±204 mL (p<0.01)
Reflux

- Catheter related
- High pressure
- Reflux and obstruction in the same patient
Botulinum Toxin
Botulinum Toxin and NDO

- Been around for 14 years (2002)
- A simple day stay (LA) treatment
- Care with infection/sepsis
- Benefits last 3-12 months and can be repeated up to 12 times at least
- Retention risk depends on dose but not so important in patients with neuropathy
Botox - A Revolution!?
Botox Injection and Placing an SPC
Botox v Surgery

• Botox doesn’t always work!
• 50% of patients don’t want to continue
• How to manage then?

• Reconstructive surgery is an option
Before Recon Can the Patient Catheterise?

- Willing
- Able
- Taught
- Prepared
- Consented
Chose Patients Carefully
Clam Ileocystoplasty – The Gold Standard!
The “Real” Alternative to Botox

- Clam augmentation ileocystoplasty
Bivalving the Bladder
Bivalved to the Corners
Bowel Sutured to the Bladder
The Issue of Bladder Emptying
Appendix Prepared
Tunneled Appendix
Bladder reconstruction with or without continent diversion

- Use a clam to augment
- Appendix or small bowel tube (Monti)
- Attach to the best chosen place
- No need to close the urethra if continent
Mitrofanoff using Small Bowel (Monti) Tube
Ileal conduit urinary diversion

- Kidney
- Ureter
- Stoma (urostomy opening)
- Ileal conduit
Ileal conduit Urinary Diversion

- Good proven long-term management of incontinence
- Useful for the very disabled
- Avoids the problems of the long-term catheter
- Don’t forget the retained bladder
- Risks and benefits must be weighed up
TVT or TOT for Female Incontinence
Conclusions

• You thought recon was gone!
• No there is still a need
• However open surgery may be replaced by the Robot – not always that easy in the previously operated patient

• Patient selection and preparation improves outcomes