

Difficult catheterisation: Advice from the eighteenth century

Oussama Elhage¹, Nicholas Cambridge², Prokar Dasgupta^{1,2}

1. Urology Centre & MRC Centre for Transplantation, King's College London, King's Health Partners, Guy's Hospital, London, UK

2. Hunterian Society, London, UK

Introduction

Urinary symptoms were common in the eighteenth century. Surgeons recognised 'suppression of urine' as a serious condition. In the early eighteenth century a combination of purging, blood-letting and catheterisation were commonly recommended.

John Hunter (1728-1793) (figure 1) was surgeon to George III. Hunter had an extensive surgical experience and wrote on urological diseases in his 'Treatise on The Venereal Disease'. This poster illustrates how the experienced Hunter treated patients with urinary retention.

Sources

Hunter's original manuscripts were made available for study and examination by the Royal College of Surgeons Library, the British Library and the Wellcome Trust Library in London. Specimens were examined in the Hunterian Museum with the permission of the curator. Pictures in this poster are courtesy of the Wellcome image collection and the Royal College of Surgeons collection.

Urinary complaints in the 18th century

Patients frequently presented with symptoms ranging from 'bladder irritation, suppression of urine and pain in the parts, and usually unable to cross their legs due to pain'. Hunter would first pass a catheter (rubber tube, hard or soft) or a bougie (metal rod) into the bladder. If there was no stricture the catheter would go in easily and if there was a bladder stone it would produce a sound. Whenever Hunter suspected a prostate swelling, he used to perform an examination by inserting a finger into the rectum where he could feel the prostate to decide whether it was enlarged or not. He described the effect of middle lobe as 'a valve obstructing the passage of urine'.

Difficult cases

In difficult cases Hunter used to be called when other surgeons failed to pass a catheter into the bladder. In Hunter's *Treatise on The Venereal Disease*, he suggested a few tricks to pass a catheter inside the bladder when confronted with a difficult case. He first suggested that the tip of the bougie or catheter be bent to simulate the curve of the urethra and with the help of the surgeon's finger in the rectum the catheter could be guided inside the bladder. The other trick was to use a hollow catheter, push it as far as it goes and then pass a brass bristle or wire through the hollow catheter and normally the wire would pass over the prostate into the bladder. On the treatment of the swollen prostate gland, Hunter discussed the options available to him. He recognised that the catheter and bougie insertions in the bladder offered only temporary relief and 'a certain cure was not as yet discovered'.

Surgical intervention

When the catheter could not be passed into the bladder the creation of an artificial opening into the bladder might become necessary. Hunter discussed the contemporary options namely: Opening above the pubes, through the rectum or through the perineum. He preferred above the pubes into the abdomen. Being a wise surgeon, he advised against operating on very obese patients, or if the bladder was not distended enough as it might put the life of the patient in danger. The second option was to create an opening through the rectum, which he only attempted if the first option was not possible. The third approach was through the perineum area. Hunter did not like this method as he deemed it too dangerous.

Conclusion

Hunter's approach to difficult catheterisation was systematic and progressed to more invasive methods when necessary. His success was due to extensive experience, sharp observation and a methodical approach.

John Hunter

- 1728 born at Long Calderwood, East Kilbride, Scotland
- 1748 moved to London to assist his brother William with private courses of anatomy William was running in the Covent Garden anatomy school.
- He became a skilled dissector and took a liking to anatomy and surgery
- 1749 trained with William Cheselden at Chelsea Hospital
- 1768 gained his diploma in surgery from the 'Company of Surgeons' which later became the Royal College of Surgeons and was appointed surgeon at St George's Hospital
- He gave private courses in anatomy and surgery
- He dissected extensively on humans, animals and even plants
- 1776 appointed Surgeon Extraordinary to George III
- 1790 appointed surgeon-general to the army.
- He wrote extensively on a variety of topics including gunshot wounds, fractures, venereal diseases, dentistry, and urological conditions.
- He left an extensive collection of specimens of humans, animals and plants most of which are preserved in the Hunterian Museum at the Royal College of Surgeons of England
- He died suddenly in 1793 following a heated argument in a meeting at St George's Hospital

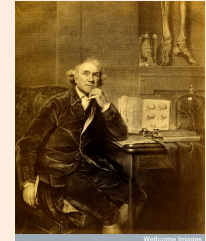


Figure 1
John Hunter, photograph after a portrait by Sir J. Reynolds, 1786



Figure 3
House and school of anatomy of William Hunter in 16 Great Windmill Street, London where his younger brother John trained and learned dissection.

Figure 2
Plan of John Hunter's house in 28 Leicester Square, London, where he kept his collections, dissected specimens, gave lectures and treated patients.

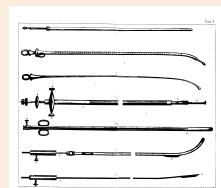


Figure 5
Catheters and bougies used by John Hunter to treat patients with urinary complaints. This plate is published by Hunter in the *Treatise on Venereal Disease*.

Figure 4
John Hunter's *Treatise on The Venereal Disease* which contains illustrations of specimens and some of these have survived and are on display in the Hunterian Museum, London

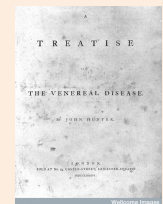


Figure 6
Bladder and urethra of a 6 year old boy who had retention of urine in 1785. Hunter passed the bougies (on display) to treat the condition. The patient died a few months later. The presence of urethral stricture and a stone behind it is described in Hunter's catalogue of specimens. (Hunterian Museum, Royal College of Surgeons, London)



Figure 7
John Hunter was called to examine Sir Thomas Stapleton, a 55 year old, because he had an attack of frequency making passing water painful and difficult. Hunter passed a catheter into his bladder and on examination found his prostate to be enlarged. Surprisingly the patient improved and Hunter recorded his unanswered questions regarding this case in his notebook. After a wait of a few years Hunter managed to perform an autopsy on the patient and recorded a swelling of the prostate gland with part of the gland forming a valve projecting into the bladder. (Hunterian Museum, Royal College of Surgeons, London)

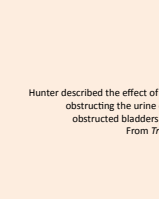
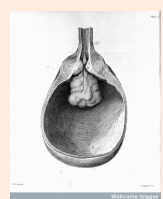
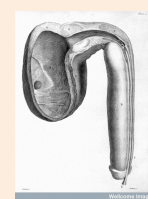


Figure 8
Hunter described the effect of middle lobe of the prostate on obstructing the urine outflow (right). He also treated obstructed bladders due to urethral strictures (left)
From *Treatise on The Venereal Disease*



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