THE NORTHERN HOSPITAL

ACUTE URINARY RETENTION

"David" in Marble, Michelangelo Buonarroti, 1501-1504, Galleria Dell' Accademia, Florence.

He turned off the Piazza San Firenze into the lower end of the Signoria. A crowd was standing below the David in silence. Fluttering from the statue were pieces of paper stuck to the marble during the night. He had seen this sight in Rome. When people had pasted up verses derogatory to the Borgia on the library door of the Vatican, or affixed their smoldering complaints to the marble torso of the Pasquino statue near the Piazza Navona. He walked across the square, through the crowd. It fell back to let him pass. He tried to read their expressions, to see what was in the wind. They seemed big-eyed. He came to the David, climbed up on the base, began taking off the papers, reading them one by one.

By the end of the third, his eyes began to mist: for they were messages of love and acceptance:

You have given us back our self respect
we are proud to be Florentines

His eye caught a familiar paper, of a kind he had held in his hands before, it read:

Everything my father hoped to accomplish
for Florence is expressed in your David
Contessina Ridolfi de Medici

Irving Stone, The Agony and the Ecstacy, 1961.

Florence was the guiding light of the European renaissance during the Fifteenth and early Sixteenth centuries. The rebirth of the classical world's humanistic ideals flourished under the dazzling rule of Lorenzo de Medici, "the Magnificent", one of the true princes of the renaissance. He took under his wing artists, scientists, statesmen and philosophers and held brilliant court that soon became the envy of the rest of Europe. As he patronized more and more young apprentices the scope of human achievement in the sciences and arts in particular seemed poised to not only achieve his aims of equalling the classical world, but in all probability to surpass it. Yet in 1494 this all came to an abrupt, if momentary end. Lorenzo died suddenly and there appeared on the scene as if from nowhere a mysterious fire and brimstone peaching Dominican friar known to history as Savonarola.

In reaction to both the corruption of the church but also to his perceived pagan "frivolities" and "heresies" of Lorenzo's rule he won over the people of Florence by terrifying them with his inspired sermons of the damnation and ruin that was imperilling their souls. He preached with the force of the fanatic and in an effort to stamp out all signs of the new "humanism" he built large fires and collected as much of the art treasures and literature of Florence he could lay his hands on and burnt everything. He became the spiritual as well as the political dictator of Florence and none could speak against him for fear of horrific torture and execution, at the hands of his army of fanatical supporters. Unable to tolerate this regression back into the worst days of the Dark Ages the people eventually rebelled against his rule and had Savonarola and many of his supporters burnt at the stake. After Savonarola's execution the arts and sciences slowly re-established themselves under different patrons but the Florentines never felt that their state had recovered its former glory and many felt a great pity and shame for their city. That is until the unveiling of a momentous marble statue of the biblical king David in 1504 by an unknown sculptor. This sculptor was one of the young apprentices of Lorenzo the Magnificent who had escaped the city and fled to Rome on the sacking of Lorenzo's palace by Savonarola's hoards. He had returned to Florence after Savonarola's execution. His name was Michelangelo Buonarroti. When the people saw the David standing in the square they were in awe. Many with tears of pride in their eyes would claim that Michelangelo had returned Florence back to its rightful place as the leading cultural city of Europe.

Michelangelo's "David", depicts the great king as uncircumcised, even though we know as a Jew he would have been circumcised. This has resulted in some controversy in modern times, however in the context of Michelangelo's day a little "artistic license" seems more than justifiable in the light of his stunning reclamation of Florence's cultural heritage. When we need to catheterize our uncircumcised patients with retention however there must be no "artistic license". The foreskin must be reclaimed to its exact former position lest we put our patients at risk of a paraphimosis.

ACUTE URINARY RETENTION

Introduction

The most common presentation to the ED of acute urinary retention will be that which is due to prostatomegaly in males.

An important consideration, especially in younger patients in which there is no apparent cause for the retention, is the possibility of a spinal cord lesion. A careful neurological assessment should be done in these cases.

These following guidelines relate predominantly to male patients presenting with obstruction due to prostatic enlargement, (benign or malignant).

Pathophysiology

Causes

When assessing patients all causes of possible obstruction need to be kept in mind, including:

1. Mechanical:
    - Inside the wall eg. clot retention
    - Wall eg tumor, strictures
    - Outside wall eg, prostatic enlargement (commonest cause in men)
2. Neurogical problems especially, spinal cord lesions.
3. Drugs
    - Especially anti-cholinergic agents.
4. Post operative.
5. Secondary to severe local pain:
    - Infection such as herpes infection.
    - Urinary tract infection with severe dysuria.
6. Secondary to severe constipation.
7. Psychogenic.
8.. Trauma, eg fractured pelvis with urethral rupture.

Clinical Assessment

Important points of history include:

1. Is the patient on any drugs that may result in urinary retention?

2. Has the patient noted any neurological symptoms, especially numbness or weakness in the legs or perineal numbness?

3. Has there been any macroscopic hematuria?

4. Has there been a recent history of increasing difficulty in passing urine or other symptoms in males of "prostatism"?

5. Has there been any symptoms of urinary tract infection?

6. Has there been significant constipation?

7. Has there been any recent surgery?

    - In particular, perianal, colorectal, inguinoscrotal, spinal or urological procedures.

8. Can any precipitating factor be determined?

    - Such as new drug, or excessive alcohol intake. (If there has been a particular precipitating factor, then recovery is more likely).

Important points of examination include:

1. Confirm the retention clinically:

    Suprapubic mass arising from the pelvis:

    - Pain and tenderness

    - Dull percussion note.

    - Lack of bowel sounds over the mass.

2. Check that there are no neurological signs.

3. In males, rectal examination to detect enlarged prostate/ anal tone.

4. Rule out painful local conditions eg herpes in women.

Investigations

Blood tests

These are not routine, but may be considered when infection and / or impaired renal function is suspected.

- FBE
- CRP
- U&Es/ glucose

CSU

- For microscopy, culture and sensitivity.

Bladder scan:

- **A ultrasonic bladder scan may be done to confirm retention, if there is doubt about the diagnosis of retention on clinical examination.**

Imaging:

- Further investigation will obviously depend on the index of suspicion for any given pathology.
- CT scan or preferably MRI will be required if a spinal cord problem is suspected.
- Ultrasound should be done if there is deteriorating renal function to look for evidence of obstruction of the renal tracts

Management

1. Insert Foley catheter (or Biocath if patient is to be sent home and requires a longer term catheter) and allow free drainage.
    - Record the volume drained.
    - There is no need to "clamp" the catheter after a certain volume has drained.
    - Once the bladder has been drained, if there is further drainage of > 200 mls per hour, for two consecutive hours then the patient is developing a post obstructive diuresis. These patients should be discussed with **Urology.**
2. If a foley catheter cannot readily be inserted then a suprapubic catheter may be required, seek Urological advice for this.
3. Note that in cases of pelvic trauma a urethrogram may be needed to rule out urethral trauma before a catheter is inserted.

Disposition

For patients with presumed prostatic obstruction:

Ideally catheterized patients for a presumed prostate pathology should be admitted and reviewed by the urology unit

Some patients whose symptoms are due to prostate pathology may be suitable to go home with a catheter bag, for later urological review providing the following criteria are met:

- They do not have other significant co-morbidity
- They are able to cope at home with a catheter bag.
- They have been assessed and educated in the ED by an appropriately credentialed Urology Nurse or other staff member who is able to instruct the patient in the proper care and use of a catheter bag.

  If the patient is able to be sent home with a catheter bag, then a **Hydrogel-coated Foley catheter (Biocath)** must be used. Allow free drainage.

  The Biocath is biocompatible, comfortable, prone to less encrustations and has a "wear time" of 12 weeks

  For patients who present after hours, admission to a Short Stay Unit may be required in order for education/ urology consultation to occur in the morning.

All patients sent home with a catheter bag must be seen for review in the next outpatient clinic. It is therefore important to document the need for an appointment within one week on the referral form.

For those cases where retention is not due to prostatomegaly, further management following catheterization will depend on the underlying pathology.

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