PREVENTION OF THE COMPLICATIONS OF PROSTATECTOMY

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Enough has been written and said about the actual complications after prostatectomy, and I propose rather to discuss the prevention of complications.

Much post-operative trouble can be avoided by thorough pre-operative examination, and here I want to stress the importance of looking at the patient as a whole. We must consider his weight, his chest, his cardiac reserve, his blood pressure, varicose veins, his mental state, his bowel habits, glycosuria, haemorrhagic tendencies, etc.

From the urological point of view, the following 3 points are to be stressed: (*a*) Make a thorough rectal examination. (*b*) See the patient pass urine yourself if at all possible. (*c*) Secure good IVPs, excretion cystograms, and retrograde cystograms whenever a catheter is *in situ* and whenever one is in doubt about the presence of diverticuli, reflux, etc.

There are 3 troublesome post-operative complications

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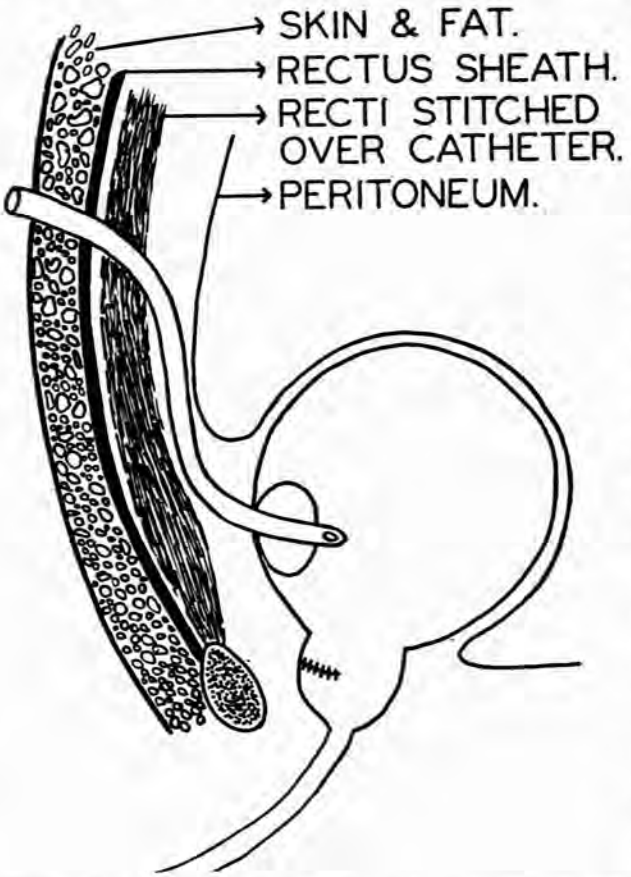
which in my experience can be largely avoided by one single manœuvre. These are (1) haemorrhage and clot retention, (2) infection, and (3) urethral stricture. The manœuvre is the suprapubic insertion of a large Foley's catheter, size 26 or 28 F, with a 5 c.c. bag.

It is this manœuvre which is the subject of this paper. It is easily carried out by either the transvesical or retropubic method. It renders a comparatively small urethral catheter sufficient (size 18 or 20 F, with a 30 c.c. bag).

Before the bladder or prostatic capsule is sewn, the peritoneum is pushed up to near the top of the bladder, and a long curved artery forceps is forced through the bladder wall and the outside end of the catheter grabbed and pulled through.

In the Millin retropubic approach a stab wound is now made through the skin and upper flap of rectus sheath, and the catheter delivered through these holes and stitched to the skin.

After the prostatic capsule is repaired and a retropubic drain left in, the rectus muscle is stitched over the catheter, thus creating a long oblique tract. Deep to it is peritoneum and in front are rectus muscle, anterior rectus sheath, subcutaneous tissue and skin (See Figure). This is important,



because when this catheter is removed even after a few months, there is never a leak for more than a day, and usually not even for a few hours. The soft peritoneum is pushed by intra-abdominal pressure onto the back of the firm rectus muscle, and the tract is further occluded by laying a sausage of gauze over it and strapping it firmly down. I use a Foley's catheter because it is so much easier to remove than a de Pezza tube, and its removal is quite painless.

Now how does this second catheter prevent the 3 complications?

A. *Haemorrhage.* By having 2 catheters and frequently pumping the rubber tubes connecting them to their bottles, one keeps the catheters free of blood clot; clot retention, the biggest cause of haemorrhage is thus avoided. Only if there is actual obstruction in both tubes do I allow irrigating with sterile saline. I believe that irrigating the bladder brings in sepsis and encourages bleeding by washing off adherent clots. And, may I here make an appeal that we should all insist on closed catheter drainage, with sterile connecting tubes and collecting bottles. The old dirty habit of having a tube hanging into an open septic bottle, more often on the floor than in the bottle, and next moment carried high by the patient in his wanderings round the ward, so running the septic contents of the end of the tube into the bladder with its raw surface, is contrary to all the principles of aseptic surgery.

B. *Infection.* Two tubes are better assurance of continuous drainage than one; and obstruction means infection. We all like taking out urethral catheters early and, if the patient is then not properly emptying his bladder, especially in the chronic-obstruction type with an atonic bladder, he is left with a varying amount of residual urine, which almost invariably leads to infection—rigors, pyelonephritis, septicaemia. I now remove the urethral catheter the moment bleeding has stopped, usually about the 4th day, and I do not mind how long I leave in the suprapubic tube. In favourable cases the latter is clamped on the 7th day, the patient passes urine in a standing position, and while he is still standing the tube is unclamped and the residue measured. If he passes it easily and leaves a negligible residue the suprapubic tube is also removed. But, if there is an atonic bladder with large residue, I send the patient home with his suprapubic catheter for as long as is necessary. If bladder washes now become necessary, e.g. in a sacculated atonic bladder, they are easily carried out. No catheterization is necessary to wash out the bladder or to determine residual urine. As I said before, even after several months the oblique tract does not leak on removal of the tube.

C. *Stricture.* Stricture is caused either by trauma during cystoscopy, or by leaving a large indwelling catheter for too long. If we depend on one catheter, it stands to reason it must be big, and it must be firm to get rid of clots. What is more, it must stay for 4-7 days to allow of haemostasis and healing of the vesical or capsular incision, and it may have to stay much longer if we are dealing with a large atonic bladder. At one time red rubber catheters were blamed for strictures; but I have had this complication equally often following plastic Foley's tubes, and polyvinol types of tubes. The strictures form (1) at the meatus or just inside or (2) at the bend of the urethra in the perineum, or (3) the whole urethra may occasionally become involved. Apart from narrowing at the bladder neck, which can usually be prevented by adequate trigonectomy, this post-operative stricture, occurring sometimes within a week and sometimes 6-8 weeks later, can be most trying to patient and surgeon alike.

The big suprapubic catheter makes it possible to have a

small urethral catheter for a short period only. To those who say that the ordinary transvesical or Millin operation is so satisfactory that they do not want to vary their old methods, I can merely say, try this simple manœuvre. It takes 2 minutes longer. I can see no possible disadvantages, and I sleep much better for its use.