

THE PLACEMENT OF BALLOONLESS URETHRAL CATHETER IN TRANSVAGINAL REPAIR OF SIMPLE VESICOVAGINAL FISTULA - SONOGUIDED PERCUTANEOUS TECHNIQUE

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SUMMARY

The distended balloon in foley urethral catheter is often associated with practical problems in a postoperative case of simple vesicovaginal fistula. A metallic 24 F trocar and cannula has been used for establishing suprapubic tract to urinary bladder under ultrasound guidance and then for placing a balloonless urethral catheter. The detailed technique has been described.

The vesicovaginal fistula (VVF) is a common urogynaecological problem. Most of the simple VVF are repaired transvaginally and postoperative bladder drainage is maintained by either a wide bore urethral catheter alone or a combination of suprapubic and a urethral catheter. The balloon in urethral catheter exerts pressure on crucial repair of bladder ostium. It also keeps the eye of catheter high up and the accumulated

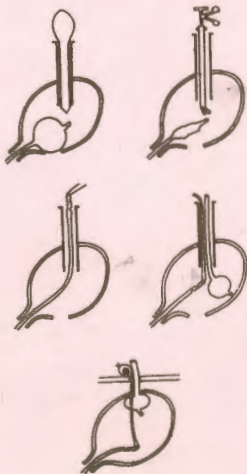
urine around the balloon keeps the repair urine logged. A sudden inadvertent traction on urethral catheter can undo the repair (Turner-Warwick). Sometimes the balloon is punctured during the operation and it is recognized only after catheter slips out postoperatively. In some patients, balloon induced troublesome bladder spasms. Faced with these problems, a simple technique has been devised to use a balloonless catheter and make it self retaining by anchoring it to on anterior abdominal wall.

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TECHNIQUE (Fig 1)

The patient is kept in supine or dorsolothotomy position. A foley urethral catheter of desired size is passed in bladder and balloon is inflated to 50 cc. A gentle traction on the catheter occludes the fistula and allows bladder filling. Sometimes fistula needs to be occluded with a finger in vagina. Two cms longitudinal cut is made in skin and linea alba just above the pubic symphysis. The trocar cystostomy is done with 24 F metallic trocar - cannula under ultrasound guidance. The cannula is left in the bladder and through this cystoscope with biopsy forceps is passed in. The balloon is deflated and catheter is pulled out of cannula. A strong silk suture is passed through the tip of catheter, balloon is trimmed off and close two-three side holes are made in the catheter. The catheter is pulled out of the urethra ensuring that all the side holes remain well within the bladder. A wide bore suprapubic catheter is passed through the same cannula and fixed to skin. The anchoring string is tied over a bolster on the anterior abdominal wall.

**DISCUSSION**

The technique described here is simple, avoids an open suprapubic cystostomy, saves anesthesia time, allows placement of balloonless urethral and a suprapubic catheter. It may be used as a regular first step before transvaginal repair of simple VVF.

Various other techniques have been used to establish a percutaneous tract in bladder by using either fascial dilators Badlani et al (1990) or a balloon catheter Pappanicolaou et al (1989) passed over a guide wire under fluoroscopic control. In our experience, it proves costly because of the use of contrast and disposables. The trocar and cannula on the contrary, can easily be reused.

The ultrasound guidance has helped us in minimizing the chances of injuring small bowel, rectum, uterus or vagina. The small bowel loops can be easily seen if they come in front of bladder and just a gentle massage of the abdominal wall is enough to displace them. Another place of injury is posterior wall of bladder and adjacent rectum or internal genitalia which largely results from the use of inappropriate force in pushing the trocar cannula assembly, particularly the one which has been used many a times and the tip is worn out. The two main anatomical layers which provide resistance and require the use of force are linea alba and the anterior bladder wall. At the level of linea alba, if the trocar is pushed without adequately incising the linea, it suddenly gives way and pushing force becomes uncontrolled, enhancing the chances of posterior bladder wall injury. The anterior bladder wall goes

on sagging under the advancing tip of trocar till it suddenly gives way and thus again making the force uncontrolled. Just before giving way, it comes quite close to posterior bladder wall and thus reduces the margin of safety. The former problem is easily circumvented by deepening the stab incision well into the linea alba. For the second, we have been greatly benefited by the use of ultrasound guidance. By making to and fro movement of the trocar one can really assess the sagging movement of anterior bladder wall. If the sagging movement is more, it implies that bladder is under filled and the bladder wall is flabby. Either the bladder or the balloon is filled more, the trocar tip is directed towards the balloon and a sharp push establishes the entry into the bladder. Sometimes the balloon is

punctured but it is of no consequence.

In case with very large fistula, bladder cannot be filled adequately but such fistula usually required transabdominal exposure. Sometimes, if anchoring string is left loose in bladder, catheter slips out partially and urine leaks out from the side holes. With experience this can be avoided. No significant complication has been encountered.

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