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Continued Overleaf

Clean intermittent catheterisation

Cheaper modifications of the technique are safe and effective, but underutilised

Many centuries ago gentlemen retained a silver tube in their top hats to enable them to catheterise themselves, circumventing their urethral strictures and enlarged prostate glands [1]. History had come a complete circle when Lapedes in the early 1970s showed that clean intermittent catheterisation (CIC) was a safe and effective way of managing urinary retention or incontinence due to neuropathic or hypotonic bladder [2]. CIC entails inserting a catheter into the bladder, emptying out all the urine and then removing it. It is a clean but not a sterile technique. This is performed several times a day by the patient or the carer. CIC improves continence, lowers susceptibility to infection in bladder emptying disorders and prevents deterioration of renal function by providing drainage [3]. It can also be used to maintain the patency of the urethra by preventing re-stenosis after endoscopic surgery for urethral stricture disease [4]. Ultimately CIC puts patients in control of their bladder and improves quality of life.

Although CIC appears simple, initial reaction of the patient is that of anxiety and rejection. In Sri Lanka, even the medical and nursing personnel look at CIC with fear and suspicion. They may be unfamiliar with the technique, fear an increased risk of urinary tract infections or consider their patients too ignorant to understand the technique. Medical personnel may, therefore, sometimes perceive it easier to insert an indwelling catheter than undertake training to use CIC. This has led to gross underutilisation of this simple and useful technique. Despite initial misgivings most patients find CIC unexpectedly easy. Neurogenic bladder dysfunction and urethral stricture disease are common in Sri Lanka because of the high incidence of spinal injuries, pelvic fractures and balanitis xerotica obliterans [5]. Since the diagnostic (e.g. urodynamics) and therapeutic options (e.g. artificial urinary sphincters, bladder reconstruction surgery and urethroplasty) available in Sri Lanka are limited, CIC can be used more frequently in the successful management of these patients.

Several types of catheters are available for patients to use during CIC. The low-friction hydrophilic catheters especially designed for CIC are self-lubricating. They are lubricated after being immersed in warm water for about 30 sec. Low-friction catheters are often preferred as they are more comfortable to use and there is less risk of damage to the urethral mucosa [6, 7]. But these can only be used on few occasions as the water binding ability of the surface is reduced after initial use. However, these have no advantage in regard to bacteriuria and urinary tract infection [8]. Patient satisfaction with a product must always be taken into consideration, but should be considered within the context of safety and effectiveness (including cost-

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effectiveness). Patients deserve personal choice in products, but whether all the choices should be provided with our limited resources is an ethical question.

Because of high cost it is not practical to use sophisticated catheters as a routine in Sri Lanka, since CIC needs to be done regularly over a long period of time and at times even for life. CIC programmes using ordinary silicone coated latex catheters, which are cheap and freely available throughout the country, have been found to be safe and effective with good patient acceptance [9]. Such a catheter can be used repeatedly for a period of 1 month, and can be rinsed with soap and water before and after use, and stored in a clean plastic box or a bag. Rinsing the catheter with running water for 10 sec and drying them completely is more effective in reducing bacteria than washing with liquid detergent [10]. The feasibility of this type of catheter care is important since many of the patients with neurogenic bladder dysfunction and urethral stricture disease are from low socio-economic groups in rural Sri Lanka. Usually the patients are advised to use lignocaine jelly to lubricate the catheter, but after a period of time many of them manage without it [9]. Even with the most casual catheter care, symptomatic urinary tract infections are rare. Infections are more of a problem in patients who catheterise infrequently or in those with established renal damage [11]. To ensure frequent catheterisation, the technique should be kept simple.

The required frequency of CIC in patients with bladder emptying disorders varies according to the fluid intake and the capacity of the bladder. The ideal is to perform CIC often enough to avoid incontinence and to keep the residual volume below 300–400 mL. The average suggested frequency is four or five times a day [12]. This should be more frequent in children and patients with high fluid intake or small bladder capacity. In patients with urethral stricture disease, CIC 1–3 times a day has been recommended [4]. However, in patients with long strictures from balanitis xerotica obliterans, it may be useful to perform CIC once a day [9].

Before teaching a patient CIC, it is important that basic urological investigations are done to determine their specific problems and suitability for the procedure. Once a patient is considered suitable for CIC, a teaching programme should be initiated. Patients may initially require sympathetic and repeated demonstration of the procedure before they can confidently undertake it themselves. The instructor needs to be empathetic, supportive and skilled in the technique, as the patient faces a change in both lifestyle and body image. He should be alert to any sexual anxieties the patient may have. Once they have mastered the technique, many patients require little further support, but the option of regular contact with a primary care physician in the community and the regional specialised unit, whenever necessary, should be offered. Long term follow up should include regular ultrasound examination of the urinary tract to exclude upper tract dilation, xray of the urinary tract to exclude a silent calculus and biochemical tests to assess renal function [13]. Although initial training is difficult, children tend to perform CIC quite well [9]. However, in children who are younger than 5–6 years, a parent should be taught the technique of CIC.

Common complications of CIC include asymptomatic bacteriuria and urinary tract infection. Although bacteriuria can occur frequently, it is rarely associated with symptomatic infection and has a benign nature [13, 14]. Most people doing CIC develop resistance to the organisms in their urine and have asymptomatic bacteriuria. If it is treated, resistant organisms may develop. Recurrence rates of bacteriuria are high and the side effects of antibiotics can be bothersome, all resulting in significant expense to the patient and to the health care system for no apparent benefit [13]. In general, asymptomatic bacteriuria should not be treated. It has been shown that

asymptomatic bacteriuria in children performing CIC is neither an indication for antibiotics nor a risk factor for renal scarring [15]. CIC is successful in controlling the spread of infections because CIC mimics the regular filling and emptying of the bladder. This prevents distension and ischaemia of the detrusor and thus maintains adequate circulation in a vascular muscle, which allows the natural defense mechanisms to be effective against infections [2, 16]. During the learning period many patients experience small amounts of urethral bleeding due to trauma. This is self-limiting and lasting effects are rare [14]. The incidence of complications of CIC compares favourably with that after surgery for incontinence or indwelling urethral catheterisation [14, 17, 18].

CIC is one of the major advances in urological practice. The success of a CIC programme depends not on expensive equipment but on continued motivation and support from the medical personnel in the hospital and the community. CIC can be taught and performed using the already available facilities with a little extra cost to the health services and patients. Health professionals in Sri Lanka should be made aware of this. Despite initial resistance by the patients and scanty resources, Sri Lankan patients can be trained to perform CIC effectively [9]. Users of this method are among the most grateful of all once they become familiar with the technique and appreciate its usefulness. More patients should be given the opportunity to try out CIC as it can transform their lives.

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