

UROLOGIC COMPLICATIONS IN CHILDREN WITH SPINA BIFIDA USING CLEAN INTERMITTENT CATHETERISATION LONGER FIVE YEARS OR LONGER

Aims of Study

Clean intermittent catheterization (CIC) has been established as a safe and effective treatment modality for the voiding dysfunction associated with spina bifida. Use of a single-use, hydrophilic catheter rather than a PVC reusable catheter has been proposed as a method of decreasing urologic complications associated with long term intermittent catheterisation. Lower numbers of polymorphs and epithelial cells have been noted in the urethral swabs of hydrophilic coated catheter users compared to PVC users¹. These findings may have implications for long term reduction of urologic complications in CIC users, in particular urethral strictures. The clinical significance of polymorph or epithelial cell increases has yet to be determined as the reported long term complications of intermittent catheterization in adults ranges between 0-13% for hydrophilic catheters^{2,3} to 0-19% for PVC catheters^{4,5}. The incidence of complications associated with CIC in children with spina bifida has not been established in the literature. The purpose of this study was to document all urologic complications related to CIC in a population of children with spina bifida.

Methods

The study population was composed of children with spina bifida, attending a multidisciplinary spina bifida clinic, who have been performing CIC for a minimum of 5 years or whose caregiver performed CIC for the child. A retrospective chart review was performed to document all complications associated with CIC. Outcome measures included hematuria, false passage, urethral stricture, urethritis and epididymitis.

Results

A total of 61 children had been followed at the spina clinic from birth to five or more years; 55 charts were complete, 27 males and 28 females. All subjects had attended the clinic since birth and had a complete record of their urologic, neurologic, orthopaedic and other health procedures. Moreover, subjects had seen only one urologist during their registration at the clinic. The average length of CIC was 10.5 years (range 5 – 15). The total length of CIC for the study population was 570 years. Most children (76%) learned to perform self-catheterization at a mean age of 8 years (range 4.7 – 15.3). Two (2) complications were identified: gross hematuria and a false passage. Both complications occurred early in the course of CIC, and while performed by a caregiver. Neither complication was associated with long-term sequelae.

Conclusions

Complications associated with long term CIC in children with spina bifida are rare. In this study, complications were encountered in 2 patients (3.6%) with an incidence of 3.5 complications/1000 patient years (95% confidence limits: -1.3,8.3) of observation. Based on the literature, the clinical benefits of hydrophilic catheters appear to be equivalent to PVC catheters. PVC catheters appear to be a cost effective method of routine bladder emptying over an extended period of time.

References:

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