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Morbidity assessment post suprapubic catheter insertion in pediatric videourodynamics

Sofia Rose*

Department of Urology, University of Toronto, Toronto, Canada

✉ ***Sofia Rose***
Department of Urology,
University of Toronto,
Toronto, Canada,
E-mail: Srose99@gmail

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Description

Videourodynamics (VUD) is a valuable diagnostic tool in pediatric urology. One method to perform VUD involves the insertion of a Suprapubic Catheter (SPC). Despite its benefits, concerns about morbidity associated with SPC insertion in children have arisen. This paper aims to explore the morbidity following suprapubic line insertion for videourodynamics in pediatric patients. VUD aids in diagnosing complex urinary issues in children by combining fluoroscopy with simultaneous video recording of the bladder and urethra during voiding. SPC insertion allows direct access to the bladder, facilitating the instillation of contrast media during VUD. However, concerns persist regarding potential complications post-SPC insertion in pediatric patients.

SPC insertion carries a risk of infection. Urinary Tract Infections (UTIs) are a common complication post-insertion, requiring prompt management to prevent systemic spread or complications such as urosepsis. Issues like catheter blockage, leakage around the catheter, or accidental dislodgement can occur. These mechanical problems might necessitate catheter repositioning or replacement, causing discomfort and potential injury. Improper insertion techniques or anatomical variations can lead to bladder perforation, urethral injury, or bowel injury. These complications may necessitate surgical intervention and prolonged recovery. Children may experience discomfort or pain at the insertion site, leading to distress and potential psychological impact.

Ensuring sterile conditions during insertion minimizes infection risk. Proper training of healthcare professionals in sterile catheter insertion techniques is important. Regular monitoring and appropriate care of the SPC reduce the likelihood of mechanical complications. Ensuring correct catheter size and securing it properly can mitigate accidental dislodgement. Educating children and their caregivers about catheter care, signs of infection, and steps to take in case of complications is vital. This empowers them to identify and report issues promptly. Regular follow-up visits allow early detection and management of any complications. Monitoring for signs of infection or mechanical problems ensures timely intervention.

VUD with SPC insertion allows simultaneous visualization of the bladder and urethra during voiding, providing comprehensive diagnostic information. It helps in identifying various urological abnormalities such as vesicoureteral reflux, neurogenic bladder, or urethral abnormalities that might not be apparent through other diagnostic methods. Compared to traditional fluoroscopic imaging, VUD with SPC insertion often reduces radiation exposure. It allows for real-time monitoring of bladder function while minimizing the

amount of radiation necessary for imaging, which is particularly beneficial for pediatric patients who are more sensitive to radiation. SPC insertion provides direct access to the bladder, facilitating interventions such as contrast dye instillation, bladder washouts, or therapeutic measures without the need for repeated catheterizations.

In cases where ongoing monitoring or repeated interventions are required, SPC insertion provides a stable and accessible route for surgical procedures or other interventions without the need for recurrent catheter placements, thereby reducing trauma and discomfort. Children with chronic bladder dysfunction or neurogenic bladder may benefit from the long-term use of SPC, providing a reliable means of bladder drainage and facilitating effective management of their condition. The SPC allows flexibility in diagnostic approaches by enabling controlled bladder filling and voiding, which can be important in diagnosing certain bladder dysfunctions or anatomical abnormalities in pediatric patients.

Conclusion

In conclusion, suprapubic catheter insertion for videourodynamics is an invaluable tool in diagnosing pediatric urological conditions, it is not without risks. Infection, mechanical issues, and potential injury are among the primary concerns post-insertion. Implementing stringent aseptic techniques, proper catheter care, patient education, and vigilant monitoring are important in mitigating morbidity associated with SPC insertion in children undergoing VUD. Continued research and advancements in technique and technology are essential to further minimize these risks and improve patient outcomes.