Case study: Managing recurrent stent encrustation with the Black Silicone Filiform Double Pigtail Ureteral Stent

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Clinical history

This patient is a 78-year-old female with a history of cervical cancer diagnosed at age 66, treated with chemotherapy and radiation. She developed a right ureteral stricture managed with a polymeric right ureteral stent. She had minimal stent symptoms and elected to not have definitive surgical reconstruction.

The stent was exchanged every 10-12 weeks by interventional radiology for 10 years due to encrustation. Ultimately, she developed more significant recurrent encrustation that required endourologic exchange. This was performed, along with simple cystolitholapaxy to clear off the encrustation, every 10 weeks for 2 years. The decision was made to try a silicone stent to reduce the exchange frequency.

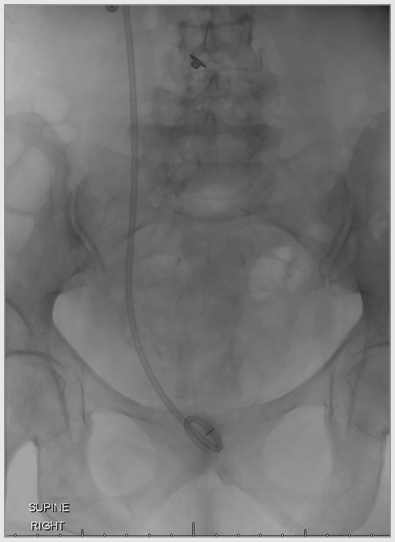
Procedure

Under monitored anesthesia care, a 20 Fr rigid cystoscope was inserted into the patient's bladder. The indwelling right ureteral polymeric stent was in place, with significant distal curl encrustation.

A 5 Fr open-end ureteral catheter was used to advance a hybrid PTFE-nitinol angled wire guide alongside the stent and into the kidney without difficulty. The cystoscope was removed and replaced.

Using a flexible grasper, stone was broken off the distal curl of the stent to be able to uncurl and remove the stent. On the back-table, it was attempted to advance a wire guide through the lumen of the stent to check its patency, but the stent was occluded.

The cystoscope was reinserted into the bladder and the remaining encrustation fragments were all flushed out.



Distal curl encrustation at 10-week exchange

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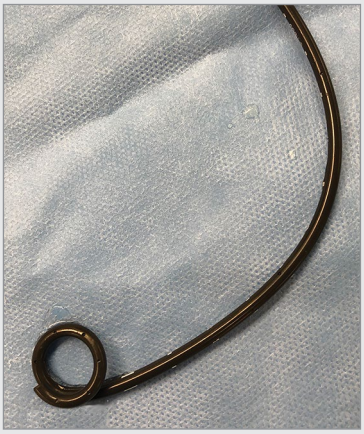
Over the wire guide, a new 8.5 Fr x 22 cm Black Silicone Filiform Double Pigtail Ureteral Stent (Black Silicone stent) was placed, with a complete curl in the right renal pelvis and the bladder.

The Black Silicone stent was subsequently exchanged at 12 weeks and 16 weeks after that, without any signs of encrustation or luminal occlusion. The next exchange is planned after another 20 weeks. She has tolerated the new ureteral stent without any discomfort.

Conclusion

This patient required serial stent exchanges and because the Black Silicone stent had decreased encrustation, we were able to reduce the stent exchange frequency. In my practice, reducing the frequency of stent exchanges has created more OR time for treating stones and has had a significant impact on annual care costs.

Dr. Canvasser is a paid consultant of Cook Medical.



12-week exchange of the Black Silicone stent

16-week exchange of the Black Silicone stent

Filiform Double Pigtail Stent Set

CAUTION: U.S. federal law restricts this device to sale by or on the order of a physician (or a properly licensed practitioner).

INTENDED USE: The Filiform Double Pigtail Stent is used for temporary internal drainage from the ureteropelvic junction to the bladder. The wire guide is used to gain ureteral access, to establish a tract, and to assist in the placement, replacement, and exchange of medical devices during urological and gynecologic procedures.

CONTRAINDICATIONS: None known

WARNINGS: None known

PRECAUTIONS: Manipulation of the wire guide requires appropriate imaging control. Use caution not to force or over manipulate the wire guide when gaining access. • When using a wire guide through a metal cannula/needle, use caution as damage may occur to the outer coating. • When exchanging or withdrawing an instrument over the wire guide, secure and maintain the wire guide in place under fluoroscopy in order to avoid unexpected wire guide displacement. • The included wire guide is not intended for PTCA use. • Hydrophilically coated wires are very slippery when wet. Always maintain control of the wire guide when manipulating it through any device. • Complications of ureteral stent placement are documented. Use of this device should be based upon consideration of risk-benefit factors as they apply to your patient. Informed consent should be obtained to maximize patient compliance with follow-up procedures. • It is imperative that the filiform flexible end of the wire guide be introduced into the ureter first. • Do not force set components during placement, replacement, or removal. Carefully remove the set components if any resistance is encountered. • The stent must not remain indwelling more than twelve months. If the patient's status permits, the stent may be replaced with a new stent. • The included stent is not intended as a permanent indwelling device. • A pregnant patient must be more closely monitored for possible stent encrustation due to calcium supplements. • Improper handling can seriously weaken the stent. Acute bending or overstressing during placement may result in subsequent separation of the stent at the point of stress after a prolonged indwelling period. Angulation of the wire guide or stent should be avoided. Use of a 0-degree scope lens is recommended. Scopes larger than 21.0 French are suggested. • Individual variations of interaction between stents and the urinary system are unpredictable. • Periodic evaluation via cystoscopic, radiographic, or ultrasonic means is suggested. The stent must be replaced if encrustation hampers drainage. • If problems occur using this device, please call your Cook Urological sales representative or contact our Customer Service department at the address/phone listed at www.cookmedical.com.

See instructions for use for full product information.

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