

suggest that occurred under sampling in the needle biopsy of more aggressive tumors by the time of diagnosis rather than progression of indolent tumor.

This is an important observation. The pathologist must be aware and inform if a sample is representative of the region biopsied. The criteria for insignificant prostate cancer (or small volume cancer with pathologic findings) should be applied only in well representative needle biopsies otherwise a rebiopsy should be performed.

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BASIC AND TRANSLATIONAL UROLOGY

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Uropathogen interaction with the surface of urological stents using different surface properties

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Purpose: Ureteral stents commonly become infected or encrusted. Various coatings have been developed to decrease bacterial adherence. To our knowledge there has been no in vitro testing of coating with heparin to date. We determined the effects of heparin coating on bacterial adherence of common uropathogens and physical stent properties.

Materials and Methods: Heparin coated Radiance ureteral stents (Cook) and noncoated Endo-Sof control stents were tested against triclosan eluting Triumph(R) stents and noneluting Polaris control stents for adherence of *Escherichia coli*, *Klebsiella pneumoniae*, *Enterococcus faecalis*, *Staphylococcus aureus* and *Pseudomonas aeruginosa* for 7 days. Adherent bacteria were determined and biofilms were visualized using fluorescent dyes. Radial, tensile and coil strength of the Radiance and Polaris stents was compared to determine the effect of heparin coating on physical stent characteristics.

Results: Heparin coating did not decrease bacterial adhesion compared to its control. *E. coli* adhesion was limited by all stents tested. The Polaris stent showed significantly greater resistance to bacterial adherence for *Klebsiella*, *Pseudomonas* and *Enterococcus* than the Endo-Sof and Radiance stents but was more susceptible to *S. aureus* adherence. The Triumph stent resisted all bacteria except *Pseudomonas* and *Enterococcus*. Mature biofilms were observed on all stents with lower viability on the Triumph stent. Radiance stents showed higher tensile and lower compression strength than its control.

Conclusions: Heparin coating does not decrease bacterial adherence to ureteral stents. Drug eluting antimicrobials have an inhibitory effect on bacterial adherence and the Polaris stent showed the least bacterial adherence of the nondrug eluting ureteral stents tested.

Editorial Comment

This is an important study on the ability of five common urological pathogens (*Escherichia coli*, *Enterococcus faecalis*, *Klebsiella pneumoniae*, *Staphylococcus aureus* and *Pseudomonas aeruginosa*) to adhere and form biofilms on commercially available ureteral stents. Also, it was evaluated the impact of heparin coating on stent compression, tensile and coil strength.

This research opens new avenue to a very common and up-to-date problem that is bacterial encrustation and adhesion to stents. It could help modifications in stent design and also in developing drugs to inhibit bacterial adhesion and biofilm formation. I recommend this article as a reference for study design and methodology to all researchers interest in the issue of stent incrustation by bacteria.

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Cryptorchidism with short spermatic vessels: staged orchiopexy preserving spermatic vessels

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Purpose: Patients with cryptorchidism can have such short spermatic vessels that it is impossible to place the testicle in a satisfactory scrotal position using conventional orchiopexy. In these cases the most commonly used operation is 1 to 2-stage Fowler-Stephens orchiopexy. We present our surgical experience using staged inguinal orchiopexy without section of the spermatic vessels in patients with short spermatic vessels.

Materials and Methods: We used 2-stage inguinal orchiopexy in 38 children with intra-abdominal testis or testis peeping through the internal ring and short spermatic vessels (7 bilateral). Spermatic vessels were not sectioned, but were lengthened through progressive traction of the spermatic cord wrapped in polytetrafluoroethylene pericardial membrane (Preclude). In the first stage we mobilized the spermatic cord in the retroperitoneal space and then wrapped it in the polytetrafluoroethylene membrane. We subsequently attached the testis to the invaginated scrotal bottom. At 9 to 12 months we performed the second stage, which involved removing the polytetrafluoroethylene membrane.

Results: From the first to the second stage we observed progressive descent of the testicle toward the scrotum. At 1 to 8-year followup after the second stage all 45 testicles were palpable in a satisfactory scrotal position with stable or increased testicular volume.

Conclusions: This technique represents an alternative to Fowler-Stephens orchiopexy, which can be associated with a greater risk of testicular ischemia.

Editorial Comment

The authors present their experience with cryptorchidism with short spermatic vessels, where they applied a staged inguinal orchiopexy without sectioning the spermatic vessels. The spermatic vessels were involved in an anti-adhesion polytetrafluoroethylene pericardial membrane and were progressively lengthened through traction. Of note, at long-term follow-up all children demonstrated a gonad with a positive echo color Doppler signal of spermatic vessels and stable or increased testicular volume.

It was claimed by Snyder III (1,2) that the spermatic vessels and vas are not short but embedded in the endopelvic fascia, in children with cryptorchidism. This paper would be in line with this belief. Also, extended