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To the Editor: Recently, the American Urological Association (AUA) revised its 2012 guidelines to maximize detection rates of urinary tract malignancies. Microhematuria should be defined as ≥3 red blood cells (RBCs) per high-power field (16.5 RBCs/µL) on microscopic evaluation of a single, properly collected specimen. As there is insufficient evidence that urinary flow cytometry analyzers can accurately assess hematuria, microscopic quantification remains the referent standard.

Automated urine sediment analyzers have been introduced into clinical laboratories for multiple reasons, including reduced turnaround time, workflow efficiency and decreased between-observer variability. Despite their widespread use, the AUA guideline does not take into account the use of automated sediment analyzers. Multiple studies reviewed the critical steps in manual urine sediment microscopy, demonstrating a coefficient of variation >100%, depending on the investigated parameter.

As the analytical quality of sediment analysis has improved over the years, more attention needs to be paid to the pre-analytical phase, which has now become the major source of error. Well-standardized procedures for collection, transport and sample preparation should become the basis of an improved diagnostic strategy for urinalysis. Different pre-analytical variables may contribute to the imprecision of RBC detection, ranging from centrifugation speed and time, variable interpretations of RBCs in urine sediment by different technologists, and the residual amount of urine remaining in the tube for resuspension. Analytical performance evaluations of modern automated urinary flow cytometers as well as microscopic urine sediment analyzers have shown acceptable results, with an imprecision that is consistently and significantly less than that of manual microscopy throughout the entire ranges encountered in clinical practice.

The guideline further states that microhematuria may not be defined by a positive dipstick test alone. It is stated that different confounding factors need to be taken into account, among which are myoglobinuria, dehydration, exercise, menstrual blood, or povidone-iodine. We have demonstrated that also extremely high urinary pH values (pH >8), as seen in urinary tract infections due to urease producing bacteria, may result in decreased hemoglobin peroxidase activity. Peroxidase activity is strongly correlated with the urinary hemoglobin concentration and severity of hematuria. Peroxidase reflectance data are useful for verifying flow cytometric data on urinary RBCs and can be used for developing expert systems to improve the quality of recorded results. The complementary metal oxide semiconductor (CMOS) technology for urine test strip reading has enabled accurate quantitative information about urinary RBCs. In contrast to what is stated in the guideline, RBC counts measured using flow cytometry (Sysmex UF-5000) showed a good agreement with the peroxidase reflectance (r = 0.84). Even hemoglobin released by partially lysed RBCs can be detected by the strip. An excellent within-run and between-run imprecision and an analytical sensitivity of 13.6 RBCs/µL of the Meditape UC-11A test strip was reported. An optimal activity of hemoglobin peroxidase was observed within a pH range of 5.0 to 6.5. Quantitative peroxidase activity data are complementary with flow cytometric analyses and show an added value in urinalysis.

Sincerely,

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To the Editor: We read with great interest the article by Dropkin et al assessing the role of postoperative antibiotics following placement of inflatable penile implants.1 The authors report a remarkably low rate of postoperative infections even without a postoperative antibiotic course, and we firmly believe that this is due to the application of the basic but essential rules aimed at reducing infectious complications in genitourinary prosthetic surgery. These are not discussed in the article as they are probably given as granted; we are not so sure that this is the case in the urological community worldwide.

We therefore respectfully suggest that a number of preoperative and perioperative steps have a significant role in reducing the risk of infection and device explantation and thus deserve to be mentioned: 1) preoperatively, urinalysis should exclude a urinary tract infection and glucose control should be normal according to glycosylated hemoglobin values;2,3 2) hygiene of penis and scrotum must be optimized on the day of surgery with accurate cutaneous cleansing with a chlorhexidine-based liquid detergent and proper hair removal carried out with clipping rather than shaving;4 3) the surgical field should be scrubbed with chlorhexidine-alcohol solution;5 4)
surgery should be ideally performed by more experienced surgeons and surgical time must be reduced to a minimum, as both factors have been associated with a reduced risk of surgical site infection; 5) during the procedure the surgical field should be irrigated with an anti-microbial solution, especially if noncoated devices are used; 6) skin surface contact should be minimized during the procedure applying a “no-touch technique;” 7) strategies to reduce hematoma formation should be employed, including Mummy Wrap and postoperative device inflation. Once these principles and maneuvers are respected it makes sense to limit antibiotics to the prophylactic dose, and the authors should be commended for elegantly demonstrating this concept, although prospective randomized trials with larger samples are certainly needed to confirm their findings.

Respectfully,

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8. Eid JF, Wilson SK, Clevas M et al: Coated implants and “no touch” surgical technique decreases risk of infection in inflatable penile prosthesis implantation to 0.46%. Urology 2012; 79; 1310.