



Re: The Genetic Source Tracking of Human Urinary Exosomes

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Editorial Comment: The authors investigated the genetic sources of urinary exosomes at the levels of both organs and cells, showing that the bladder, endothelial cell, basal cell, monocyte and dendritic cell may closely participate in the formation of urine exosomes. By tracking differentially expressed genes of urological cancers at cell levels and analyzing their enriched pathways, it was noted that the urinary exosomes are intensively involved in immune activities in cancer development. Further biomarker investigation from exosomal RNAs resulted in 2 marker sets that could distinguish cancer from noncancer urinary diseases with area under curve values >89.8%. The exosome tracking analysis could provide a practical, noninvasive method for diagnosis and prognosis at the molecular level using human urine.

Suggested Reading

Kohaar I, Chen Y, Banerjee S et al: A urine exosome gene expression panel distinguishes between indolent and aggressive prostate cancers at biopsy. *J Urol* 2021; **205**: 420.

Anthony Atala, MD

Urolithiasis/Endourology

Re: Predictors and Strategies to Avoid Mortality following Ureteroscopy for Stone Disease: A Systematic Review from European Association of Urologists Sections of Urolithiasis (EULIS) and Uro-Technology (ESUT)

R. Bhanot, A. Pietropaolo, T. Tokas, P. Kallidonis, A. Skolarikos, E. X. Keller, V. De Coninck, O. Traxer, A. Gozen, K. Sarica, L. Whitehurst and B. K. Somani

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Editorial Comment: Ureteroscopy is now the most common kidney stone removing procedure undertaken in North America and many other regions of the world. Although mortality in the perioperative period after ureteroscopic stone removal is rare, it can still occur. This study demonstrates

that older age, larger stones, longer operative times, female gender, preoperative urinary tract infection and coexistent medical comorbidity are risk factors for mortality. Sepsis was the major cause of mortality. The risk of sepsis would be expected to be higher in females due to their propensity to have urinary tract infections. The larger stones could have been composed of infectious components such as struvite or carbonate apatite which could be contributory. Thus, proceed with caution in patients who are at higher risk of sepsis!

Suggested Reading

Fukushima H, Kobayashi M, Kawano K et al: Performance of quick sequential (sepsis related) and sequential (sepsis related) organ failure assessment to predict mortality in patients with acute pyelonephritis associated with upper urinary tract calculi. *J Urol* 2018; **199**: 1526.

Sur RL, Krambeck AE, Large T et al: A randomized controlled trial of preoperative prophylactic antibiotics for percutaneous nephrolithotomy in moderate to high infectious risk population: a report from the EDGE Consortium. *J Urol* 2021; **205**: 1379.

Haas CR, Li G, Hyams ES et al: Delayed decompression of obstructing stones with urinary tract infection is associated with increased odds of death. *J Urol* 2020; **204**: 1256.

Nevo A, Mano R, Schreter E et al: Clinical implications of stent culture in patients with indwelling ureteral stents prior to ureteroscopy. *J Urol* 2017; **198**: 116.

Re: Percutaneous Nephrolithotomy in Horseshoe Kidneys: Results of a Multicentric Study

F. C. Vicentini, E. Mazzucchi, M. İ. Gökçe, M. Sofer, Y. Tanidir, T. E. Sener, P. A. de Souza Melo, B. Eisner, T. H. Batter, T. Chi, M. Armas-Phan, C. M. Scoffone, C. M. Cracco, B. O. M. Perez, O. Angerri, E. Emiliani, O. Maugeri, K. Stern, C. A. Batagello and M. Monga

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J Endourol 2021; **35**: 979–984.

Editorial Comment: This retrospective, multicenter study of patients with horseshoe kidneys subjected to percutaneous nephrolithotomy (PCNL) demonstrated some expected findings: those with higher stone burden less apt to be cleared of stone (stone-free + residual fragments <4 mm). Increasing body mass index was shown to negatively impact this parameter which has not been reported for the generic patient subjected to PCNL. These results also demonstrate that supine PCNL can be undertaken safely and effectively in this cohort.

Suggested Reading

Raj GV, Auge BK, Weizer AZ et al: Percutaneous management of calculi within horseshoe kidneys. *J Urol* 2003; **170**: 48.

Yohannes P and Smith AD: The endourological management of complications associated with horseshoe kidney. *J Urol* 2002; **168**: 5.

Skolarikos A, Binbay M, Bisas A et al: Percutaneous nephrolithotomy in horseshoe kidneys: factors affecting stone-free rate. *J Urol* 2011; **186**: 1894.

Perrella R, Vicentini FC, Paro ED et al: Supine versus prone percutaneous nephrolithotomy for complex stones: a multicenter randomized controlled trial. *J Urol* 2022; **207**: 647.

Re: Percutaneous Nephrolithotomy under X-Ray-Free Technique in Upper Urinary Stone Patients with Autosomal Dominant Polycystic Kidney Disease: Experience from a Large-Volume Stone Management Center

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J Endourol 2021; 35: 967–972.

Editorial Comment: Patients with autosomal dominant polycystic kidney disease (ADPKD) are at risk for developing kidney stones, typically uric acid or calcium oxalate. Patients with ADPKD and large stone burdens may benefit from undergoing percutaneous nephrolithotomy. This is perhaps the largest series of ADPKD patients subjected to percutaneous nephrolithotomy. It was demonstrated to be a safe and effective procedure. Ultrasound guided access was performed in all cases. Retrograde instillation of fluid into the collecting system containing methylthionine chloride (a dark green dye) was used to confirm access into the collecting system. As a sidebar, tolvaptan therapy is currently being used to slow progression of ADPKD and may have some benefits in reducing stone activity.

Suggested Reading

Umbreit EC, Childs MA, Patterson DE et al: Percutaneous nephrolithotomy for large or multiple upper tract calculi and autosomal dominant polycystic kidney disease. *J Urol* 2010; **183**: 183.

Ng CS, Yost A and Strem SB: Nephrolithiasis associated with autosomal dominant polycystic kidney disease: contemporary urological management. *J Urol* 2000; **163**: 726.

Re: Residual Stone Fragments after Percutaneous Nephrolithotomy: Shockwave Lithotripsy vs Retrograde Intrarenal Surgery

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J Endourol 202; 35: 609–614.

Editorial Comment: Patients can have residual stones after being subjected to percutaneous nephrolithotomy and can benefit from further stone removing procedures. This retrospective study demonstrated that a ureteroscopic approach yielded a significantly higher stone-free rate than shockwave lithotripsy. Ureteroscopy frequently provides access to the whole collecting system and allows active stone removal. My bias is that there is an extremely limited role for shockwave lithotripsy in this setting. Second look percutaneous nephrolithotomy is certainly another option.

Suggested Reading

Raman JD, Bagrodia A, Bensalah K et al: Residual fragments after percutaneous nephrolithotomy: cost comparison of immediate second look flexible nephroscopy versus expectant management. *J Urol* 2010; **183**: 188.

Brain E, Geraghty RM, Lovegrove CE et al: Natural history of post-treatment kidney stone fragments: a systematic review and meta-analysis. *J Urol* 2021; **206**: 526.

Dean G. Assimos, MD