

# Vesicourachal diverticulum with urachal adenocarcinoma

Emad Chishti, BS

Aman Khurana, MD



WELCOME TO  
**LET'S READ OUT**



# Vesicourachal diverticulum with urachal adenocarcinoma



# Case History

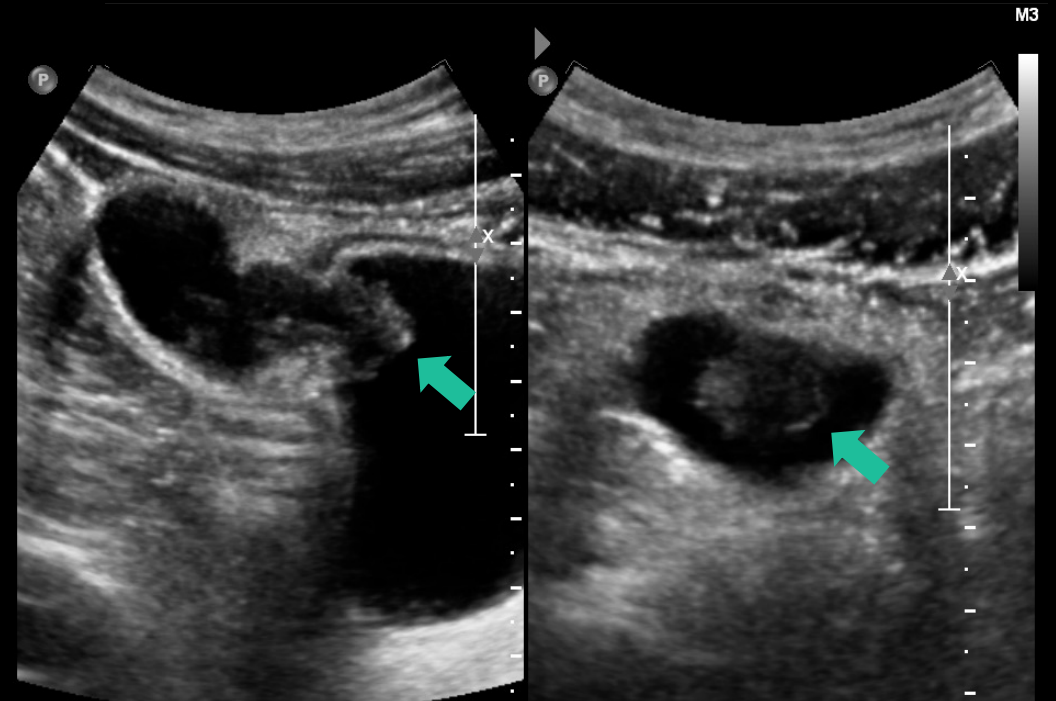
- 62-year-old male with a history of nephrolithiasis presented to his PCP complaining of right flank, suprapubic, and inguinal pain with duration of a few weeks
- Additionally, he noted mucus in his urine with intermittent episodes of hematuria over the past 2 years
- ROS – negative except for hematuria and pelvic pain



# Images



**Sagittal non-contrast CT** demonstrating an exophytic diverticulum at the bladder dome with peripheral calcification and intrinsic **soft tissue density tumor**



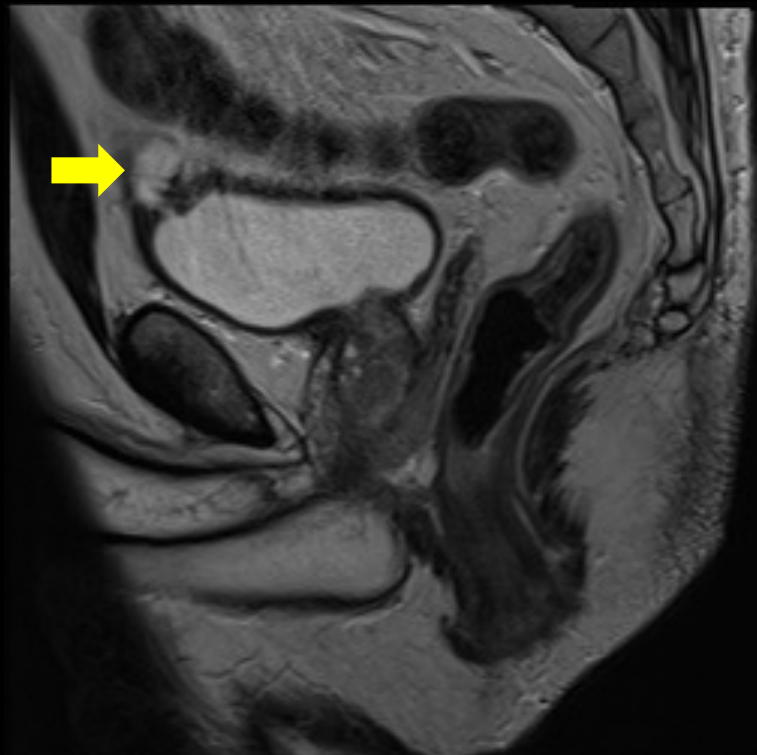
**Bladder US images** (left = sagittal, right = transverse) demonstrating a bladder diverticulum within the anterosuperior part of the bladder dome with **heterogenous hypoechoic polypoidal lesion** that appears to be protruding within the bladder cavity

LET'S READ OUT

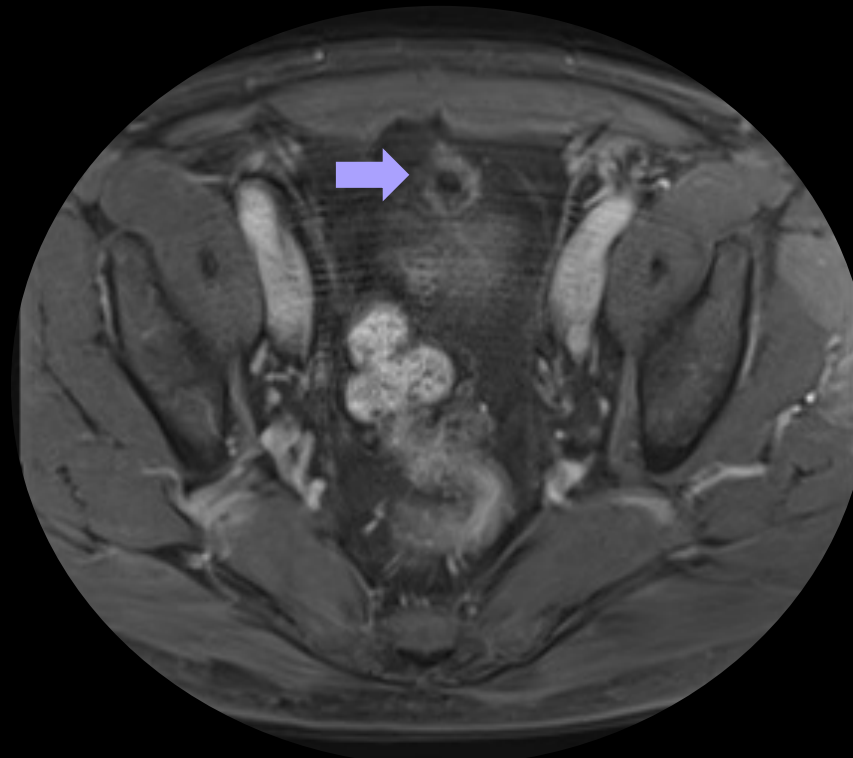


a radiology podcast

# Images



**Sagittal T2 MRI demonstrating a bladder diverticulum in the expected location of urachus and associated hyperintense mass**



**Axial post-contrast T1 FS image demonstrating contrast enhancement within the soft tissue located in the diverticulum**

LET'S READ OUT



a radiology podcast

# Multiple Choice Question

On histology, the cells lining **urachal neoplasms** would most likely best resemble which of the following?

- A. Epithelium of the proximal convoluted tubule
- B. Transitional epithelium
- C. Intestinal epithelium
- D. Fibroblasts

LET'S READ OUT



a radiology podcast

# Multiple Choice Question - Answer

On histology, the cells lining **urachal neoplasms** would most likely best resemble which of the following?

- A. Epithelium of the proximal convoluted tubule
- B. Transitional epithelium (urothelium)
- C. Intestinal epithelium**
- D. Fibroblasts

**RATIONALE:** Although urachal remnants themselves are lined by transitional epithelium, the majority (>90%) of urachal *neoplasms* are **adenocarcinomas**. Prior to malignant transformation, urachal transitional epithelium undergoes metaplastic changes causing it to resemble the glandular, mucin-producing columnar intestinal epithelium.<sup>[1-2]</sup>

LET'S READ OUT



a radiology podcast

# References

1. Yu JS, Kim KW, Lee HJ, Lee YJ, Yoon CS, Kim MJ. Urachal remnant diseases: spectrum of CT and US findings. *Radiographics*. 2001;21(2):451-461. doi:10.1148/radiographics.21.2.g01mr02451
2. Mylonas KS, O Malley P, Ziogas IA, El-Kabab L, Nasioudis D. Malignant urachal neoplasms: A population-based study and systematic review of literature. *Urol Oncol*. 2017;35(1):33.e11-33.e19. doi:10.1016/j.urolonc.2016.07.021
3. Wong-You-Cheong JJ, Woodward PJ, Manning MA, Sesterhenn IA. From the Archives of the AFIP: neoplasms of the urinary bladder: radiologic-pathologic correlation. *Radiographics*. 2006;26(2):553-580. doi:10.1148/rg.262055172
4. Verma S, Rajesh A, Prasad SR, et al. Urinary bladder cancer: role of MR imaging. *Radiographics*. 2012;32(2):371-387. doi:10.1148/rg.322115125

LET'S READ OUT



a radiology podcast