DOMINICAN UNIVERSITY of CALIFORNIA

Master of Science in Physician Assistant Studies

What is causing this patient's urinary symptoms?

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INTRODUCTION

- Vaginal cysts are common, with a prevalence rate of 0.5%[1]
- If symptomatic, cysts can cause pelvic pain or pressure, dyspareunia, infection, and dysuria.
- Malignancies should be considered. This can be ruled out with a thorough exam and workup.[2]

HISTORY

24-year-old nulligravida female was referred to urogynecology with complaints of:

- Periurethral "burning" sensation
- Urinary frequency
- Intermittently weak urinary stream

Lab Tests

- Urethral cultures were neg for *Mycoplasma, Ureaplasma, C. trachomatis, N. gonorrhoeae.*
- Vaginitis panel was neg for bacterial vaginosis, trichomonas, and vulvovaginal candidiasis.

Past Medical History

- UTI: two in the last two months
- Bacterial vaginosis, one year ago
- Vulvar contact dermatitis, three years ago

Medications

- Oral contraception

PHYSICAL EXAM

- Weight: 126.2 lbs. Height: 5'4" BMI: 21.7 kg/m^2
- Urine void: 170 mL (250-400 mL)
- Post-void residual: 91 mL (50-100 mL)
- External genitalia exam: No erythema, lesions, masses, or vulvar cysts. No point tenderness.
- Neurologic exam: Bulbocavernosus reflexes intact.
- Urethra: No masses or tenderness
- Vagina: Pink mucosa, no lesions. 2-3 cm bulge noted on the right vaginal wall proximal to hymen.
- Cervix, uterus, adnexa: No lesions or tenderness.
- Pelvic floor muscles: Decreased strength with displacement bilaterally.

DIAGNOSTICS

MRI pelvis with and without contrast showed the following:

- One large minimally complex cystic structure centered in the right lower pelvis measuring 7.0 x 5.2 cm transaxial, 6.1 cm craniocaudal, 8.5 cm sagittal **(Figure 1)**
- Rim enhancement with slightly more T2 hypointense and T1 hyperintense than simple fluid but without internal enhancement
- Displacement of the caudal margin of pelvic floor musculature superiorly
- A mass abutting the right posterior paramedian margin of bladder and right lateral margin of the urethra, vagina, lower rectum, and anal sphincter
- Bulging of the mass caudally into the right ischiorectal fossa
- A "claw sign" indicating possible right lateral/anterior vaginal wall origin **(Figure 2)**

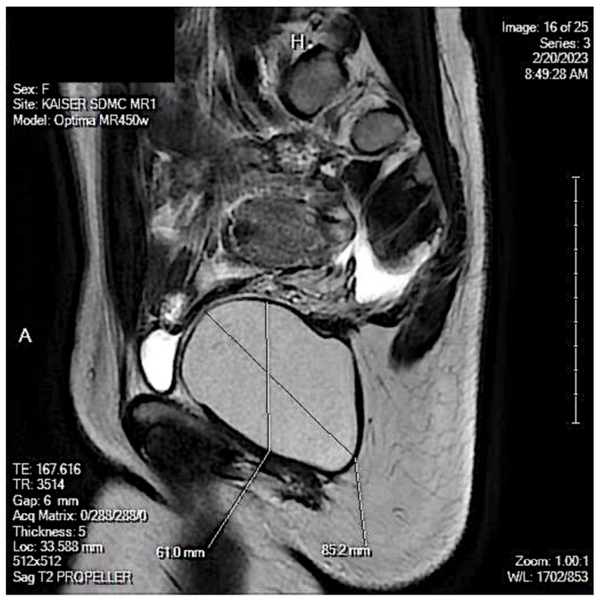

Figure 1: 85.2 mm x 61.0 mm cystic mass in the right lower pelvis.

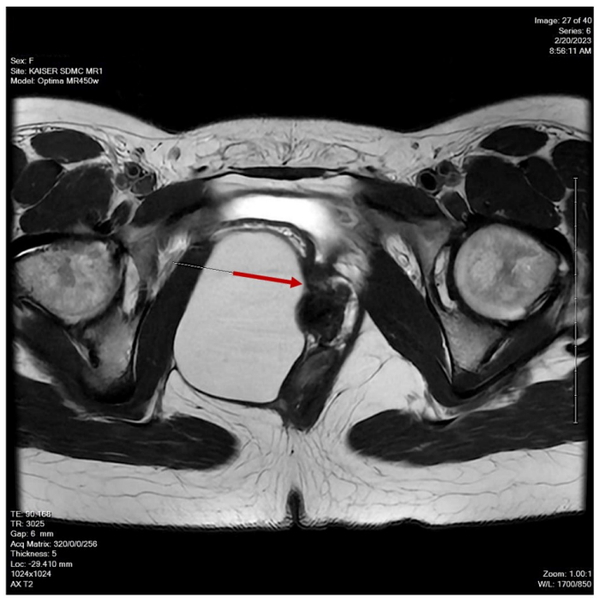

Figure 2: "Claw sign" suggesting right anterolateral vaginal wall origin.

What is your diagnosis?

1. Müllerian cyst
2. Gartner's duct cyst
3. Epidermoid cyst
4. Skene's gland cyst

DISCUSSION

Based on location and symptomatology, the following were considered in the differential diagnosis:

- Müllerian cysts are remnants of paramesonephric ducts and can be found anywhere along vaginal wall though favor the anterolateral aspect. They tend to be larger than other cysts and are considered the most common vaginal wall cyst.
- Gartner's duct cysts are remnants of mesonephric or Wolffian ducts located in the proximal third of the anterolateral vaginal wall. They are generally asymptomatic and < 2 cm in size.
- Epidermoid cysts are typically found on the vulva in association with a history of episiotomy, female circumcision, and surgical manipulation. Vaginal presentations are less common. There are no distinguishing symptoms.
- Skene's gland cysts are located inferolateral to urethral meatus or as anterior vaginal masses. They can present with voiding obstruction, UTIs, erythema, pain, and purulence. Although these symptoms match the patient presentation, the location makes this diagnosis is less likely.

Given similar clinical presentations of vaginal cysts, a biopsy with histologic analysis and mucicarmine staining is needed for differentiation.[3]

OUTCOME

Surgical excision was performed using a transvaginal approach. Final pathology identified the mass as a squamous-lined epidermoid cyst.

The patient healed well but experienced residual neuropathy for four months post-op. This resolved with pelvic floor physical therapy.

REFERENCES

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