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An unusual case of vaginal mass – subpubic cartilaginous cyst

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ABSTRACT

Subpubic cartilaginous cyst is a rare form of ganglion cyst that arises on the inferior surface of the pubis symphysis. The pathophysiology is poorly understood but has been hypothesised to be secondary to mucinous degeneration of the pubic supporting ligaments with cartilaginous metaplasia. We report a case of subpubic cartilaginous cyst in a 58-year-old woman who presented with an unusual symptomatic vaginal mass, that she described as 'growing a penis'. The patient proceeded to surgical excision of the lesion and is symptom and recurrence free following 2.5 years of follow up.

Introduction

Subpubic cartilaginous cysts are degenerative lesions derived from the pubic symphysis. They can be symptomatic or asymptomatic and have a poorly understood pathophysiology. Only 28 cases of subpubic cartilaginous cyst have been reported in the literature, many of which were managed conservatively as these benign lesions only need removal when symptomatic. Of note, there has been no case of reported recurrence following observation or surgical excision. Here, we present a case of symptomatic subpubic cartilaginous cyst that underwent surgical excision as well as provide a review of the available literature regarding this rare condition. The subject of this case report has given their informed consent for publication and their anonymity has been preserved.

Case presentation

A 58 year-old woman presented with an usual vaginal mass which she describes as "growing a penis". This mass was symptomatic with discomfort and also caused her psychological distress. She denied any discharge or bleeding from the mass. She did not have any infective symptoms. There was no associated incontinence, dysuria or haematuria. She has no significant past medical or surgical history. On examination, she was found to have a very firm bony mass located between the urethra and clitoris in the anterior vaginal wall. Ultrasound revealed a 2 × 1.8cm mixed solid and cystic lesion (Fig. 1). Flexible cystoscopy was performed, and no features of urethral diverticulum was found. Magnetic resonance imaging revealed a 2.1 × 2.3 × 1.7cm structure with mixed solid and cystic component, sitting anterior to the urethra (Fig. 2). The structure was lined by pubic symphysis synovium, and the most likely diagnosis was a subpubic cartilaginous cyst. Given that she was symptomatic, she elected to undergo a surgical excision of this mass. This was performed via a supramental approach.

With the patient in a lithotomy position, lone-star retractor and speculum was used for exposure. A curvilinear incision above the urethra was made over the palpable mass. Careful dissection along the plane between the anterior urethra and pubic symphysis was performed until the mass was reached. The mass was then dissected out and sharply dissected off the pubic symphysis to which it was connected (Fig. 3). Deep venous complex was controlled with 0 Vicryl™ sutures. Dead space was closed with 2/0 Vicryl™ sutures. Vaginal epithelium was closed with 4/0 Monocryl™ sutures. Cystoscopy was performed to rule out any bladder or urethral injury. An indwelling urinary catheter (IDC) was placed during the operation and was removed one day later on the ward.

Post-operative histopathology revealed a mixture of benign epithelial cells, fibrocartilaginous tissue, amorphous eosinophilic and occasional amphophilic material. At 2.5 years of follow-up there was no recurrence of the mass and she was discharged from our urology outpatient's clinic.

Discussion

Subpubic cartilaginous cyst is a rare form of ganglion cyst that arises

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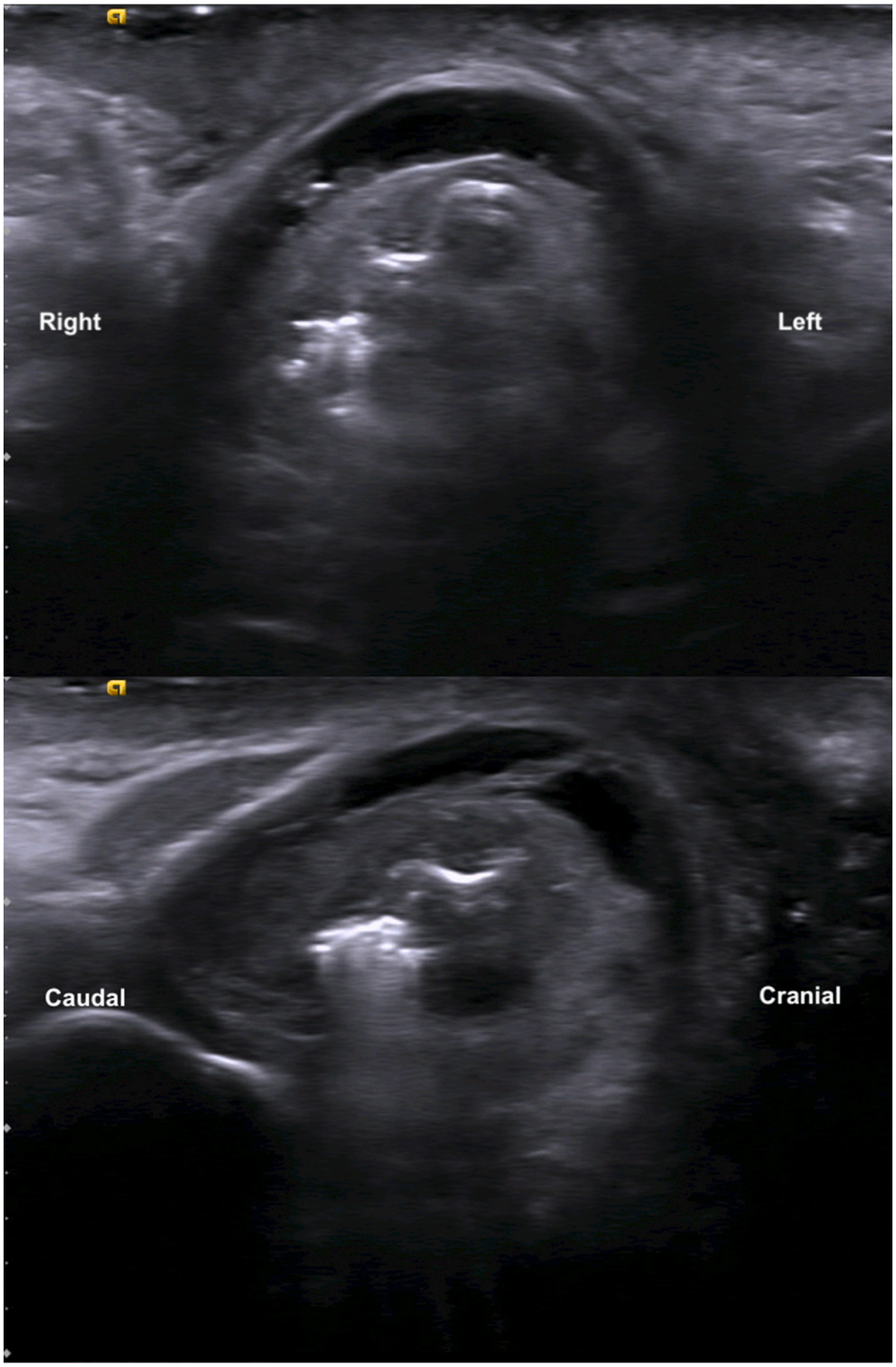

Fig. 1. Pelvic ultrasound demonstrating the subpubic cartilaginous cyst.

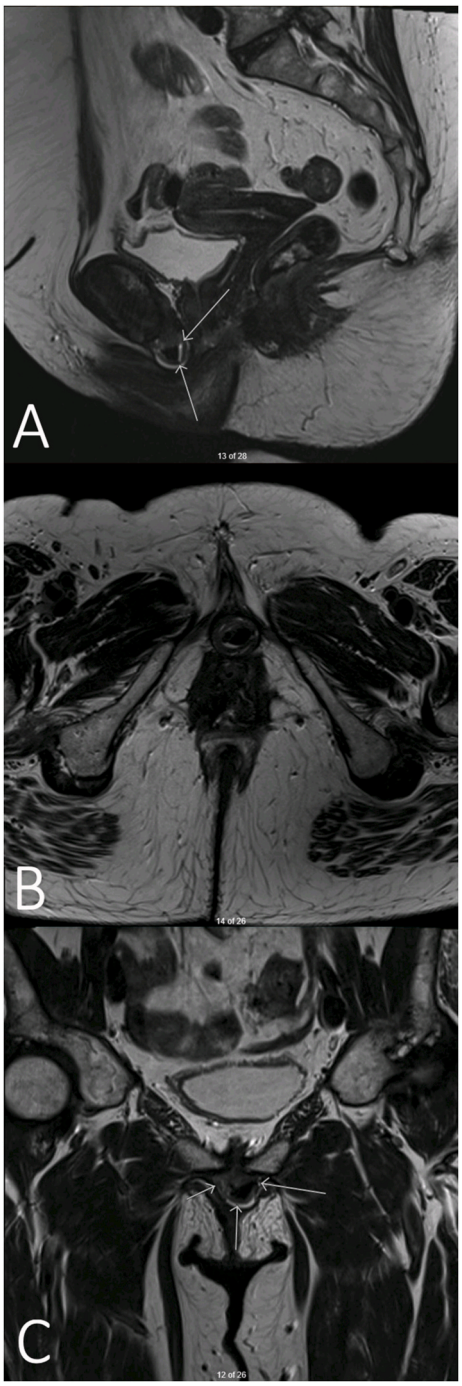

Fig. 2. Magnetic resonance imaging demonstrating the subpubic cartilaginous cyst: (A) Sagittal view; (B) Axial view; (C) Coronal view.

on the inferior surface of the symphysis pubis. The symphysis pubis a non-synovial amphiarthrodial joint positioned between the left and right pubic bones in the midline of the body, lined by a thin layer of hyaline cartilage that sandwich a thick fibrocartilaginous disc. The first case of subpubic cartilaginous cyst was described in 1996 by Alguacil-Garcia et al.,[1] since then there has been a further 26 cases reported in the literature. Typically occurring in parous women in their 6th decade of life, only three cases have been reported in men. Subpubic cartilaginous cysts may be asymptomatic or present with a palpable mass, chronic pelvic/abdominal pain, dyspareunia, recurrent urinary tract infections or urinary symptoms such as incomplete bladder emptying and urinary retention. Differential diagnoses include other low lying cystic lesions (Nabothian cysts, Bartholin cysts, Gartner cysts), urethral diverticulum and aggressive angiomyxoma. While the pathophysiology of subpubic cartilaginous cysts is poorly understood, the histopathologic findings are remarkable consistent. Namely, a collagen capsule filled with degenerating fibrocartilage, debris and mucin.[2] The inferred pathogenesis is that these lesions may represent mucinous degeneration of the pubic supporting ligaments with cartilaginous metaplasia.[1] They are considered a benign cyst with no reported malignancy.[2]

Diagnosis of subpubic cartilaginous cysts is clinical and based on imaging findings.[2] Clinical assessment commonly reveals a hard, midline mass that is closely adherent to the pubic symphysis and may cause deviation of the external urethral meatus. The best imaging

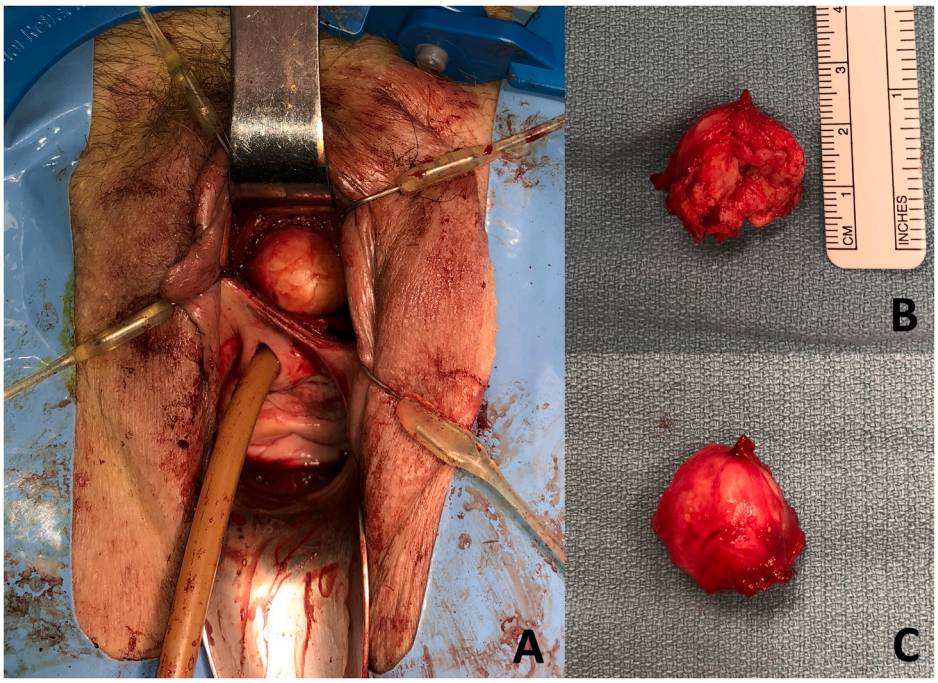

Fig. 3. Operative photos demonstrating the subpubic cartilaginous cyst: (A) appearance of the subpubic cartilaginous cyst in relation to the pubic bone and the anterior urethra; (B) pubic symphysis side of the subpubic cartilaginous cyst; (C) urethral side of the subpubic cartilaginous cyst.

modality for diagnosis is magnetic resonance imaging (MRI) as it describes morphological and structural characteristics of the mass. Radiographic features on MRI include: broad contact with the symphysis pubis, hypointense signal in T1-weighted sequences, wall enhancement without internal enhancement after gadolinium administration and heterogeneously hyperintense signal in T2-weighted imaging that represents mixed cystic and solid components. Other imaging techniques are less specific for the diagnosis of subpubic cartilaginous cysts. On plain radiography the symphysis pubis demonstrates non-specific degenerative changes consisting of sclerosis and marginal irregularities, transvaginal ultrasound shows a cystic mass in close contact with the symphysis pubis and computer tomography (CT) reveals a mass of soft tissue density and sometimes intralesional gas communication with the pubic symphysis created by *vacuum phenomenon.*[3]

In asymptomatic patients, surveillance of small subpubic cartilaginous cysts is possible. Two cases have demonstrated a spontaneous reduction is cyst size over four years of observation. Surgical excision is typically performed in symptomatic patients with widely reported success, aspiration of the cyst is considered ineffective due to its bulky contents. One case reported symphysiolysis following resection,[4] Taniguchi et al. showed that internal fixation of the pubis symphysis at the time of resection can mitigate this complication.[5] No recurrences following surgical excision have been reported with up to four years follow-up documented.[5]

Conclusion

Subpubic cartilaginous cysts are rare lesions that predominantly occur in women aged 50 to 80. They are best diagnosed via MRI and can be managed with observation or surgery depending on the patient's symptoms. Within the literature, subpubic cartilaginous cysts have no malignant potential or the capability to recur.

Declaration of competing interest

The authors declare no conflicts of interest.

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