

SUBPUBIC CARTILAGINOUS CYST: A RARE CAUSE OF DYSURIA

F.M. Vanhoenacker^{1,2,3}, J. Govaerts⁴, P. Bernard¹, S. Dekeyzer¹, G. Jacomen⁵

A subpubic cartilaginous cyst is a rare lesion that may present as a vulvar mass or rarely with dysuria. This condition occurs predominantly in multiparous postmenopausal women and is believed to be secondary to degenerative changes in the fibrocartilaginous disc of the symphysis pubis. The midline location, close relationship with the undersurface of the symphysis pubis and the cystic nature are the clues to the correct diagnosis.

Key-words: Pelvis, CT – Pelvis, MR.

Case report

A 75-year-old multiparous female presented with dysuria and a palpable vulvar mass. On Computed Tomography (CT), a well-circumscribed midline lesion in close proximity to the symphysis pubis was seen (Fig. 1). Voiding cysto-urethrography was unremarkable. On ultrasound, the lesion had a complex echotexture, with central anechoic area and peripheral hyperechoic areas (Fig. 2).

Magnetic Resonance Imaging (MRI) confirmed the intimate relationship of the lesion with the inferior margin of the symphysis pubis. The lesion was slightly more intense than muscle on T1-weighted images (WI) and inhomogeneously hyperintense to fat on T2-WI. After intravenous administration of gadolinium contrast, the mass showed subtle peripheral rim enhancement (Fig. 3).

Due to its typical midline location, the close relationship with the symphysis pubis and the imaging characteristics, the diagnosis of a subpubic cyst was made.

The lesion was excised and subsequent histopathological examination of the resection specimen showed a fibrous capsule, containing degenerative fibrocartilaginous tissue, paucicellular debris and mucin (Fig. 4). The postoperative recovery was uneventful and the problems in micturition disappeared.

Discussion

A subpubic cartilaginous cyst is a rare lesion, that was first described in 1996 (1).

It typically occurs in postmenopausal multiparous women (1- 4).

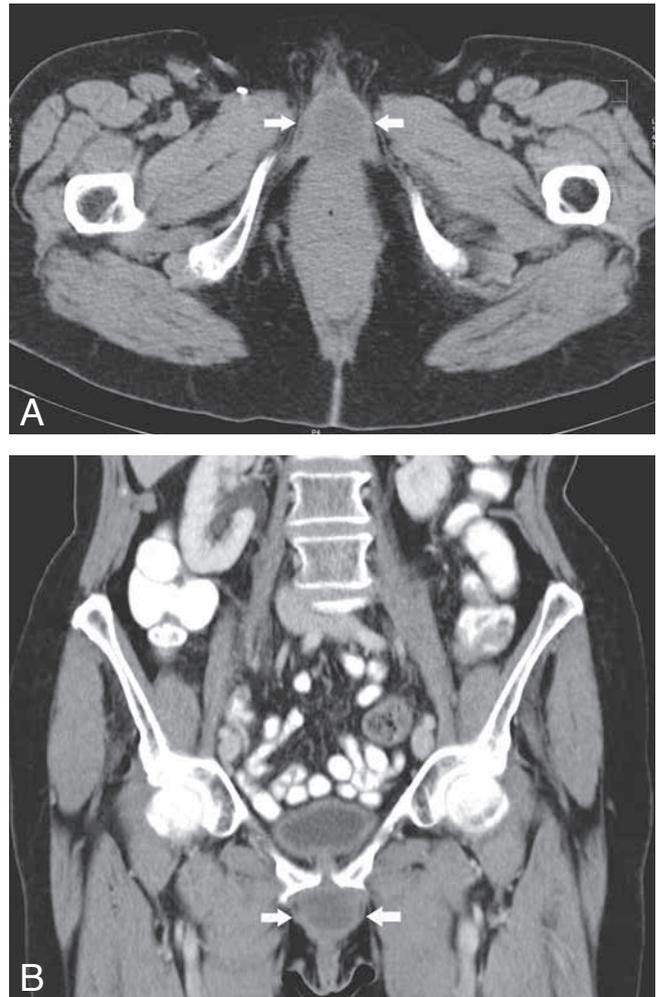


Fig. 1. — Contrast-enhanced CT scan of the pelvis. Axial (A) and coronal reformatted image (B) show a well-circumscribed hypodense mass intimately related to the symphysis pubis (arrows). There is subtle peripheral rim enhancement of the lesion.

The most frequent clinical presentation is a vulvar mass (5, 6). Dysuria, sharp pain and incomplete bladder dysfunction has been described as well (4). This may be explained by the close proximity of the lesion to the urethra.

The etiology is thought to be secondary to degenerative changes in the symphysis pubis (3).

From: 1. Department of Radiology, AZ Sint-Maarten, Duffel-Mechelen, 2. Department of Radiology, Antwerp University Hospital, University of Antwerp, Edegem, 3. Faculty of Medicine and Health Sciences, University of Ghent, 4. Department of Urology, AZ Sint-Maarten, Duffel-Mechelen, 5. Department of Pathology, AZ Sint-Maarten, Duffel-Mechelen, Belgium.

Address for correspondence: Prof Dr F.M. Vanhoenacker, M.D., Dept. of Radiology, AZ Sint-Maarten, Duffel-Mechelen, Rooienberg, 25, B-2570 Duffel, Belgium.
E-mail: Filip.vanhoenacker@telenet.be

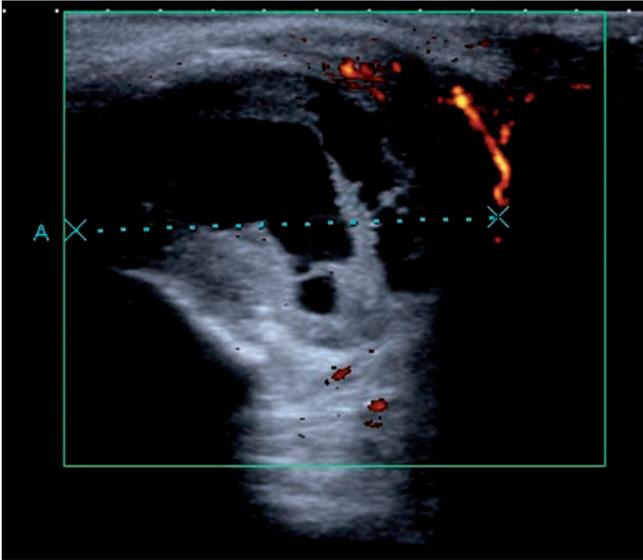


Fig. 2. — Transabdominal ultrasound. The lesion is well-delineated and has a complex echostructure, consisting of central anechoic areas and peripheral echoic components. Power Doppler shows increased vascularity at the periphery of the lesion.

The presence of associated degenerative joint disease at the pubic joint on plain films or CT, including joint narrowing, subchondral sclerosis, cyst and marginal osteophyte formation, reinforce this hypothesis.

CT typically reveals a well-circumscribed hypodense lesion in close relationship with the inferior margin of the symphysis pubis (3, 4). Sometimes, intralesional gas communicating with the pubic symphysis is found (3, 4, 7). On contrast-enhanced CT, peripheral rim enhancement may be seen.

Ultrasound shows a complex cyst containing solid areas in the vulvar region (3, 5).

MRI confirms the complex cystic nature of the lesion and the close relationship with the adjacent pubic joint. Lesion heterogeneity on T2-WI and on ultrasound may be related to the presence of intralesional debris or hemorrhage. Typically, the lesion exhibits thin rim enhancement, but the center of the lesion does not

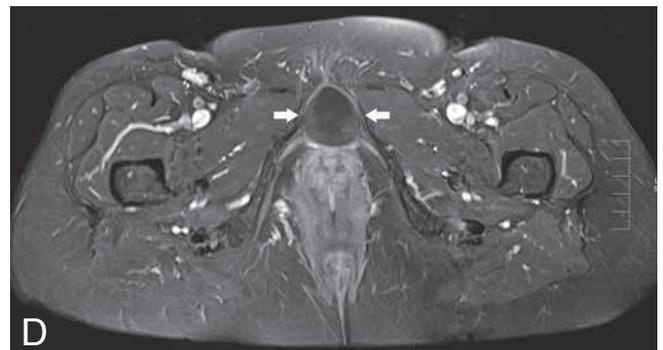
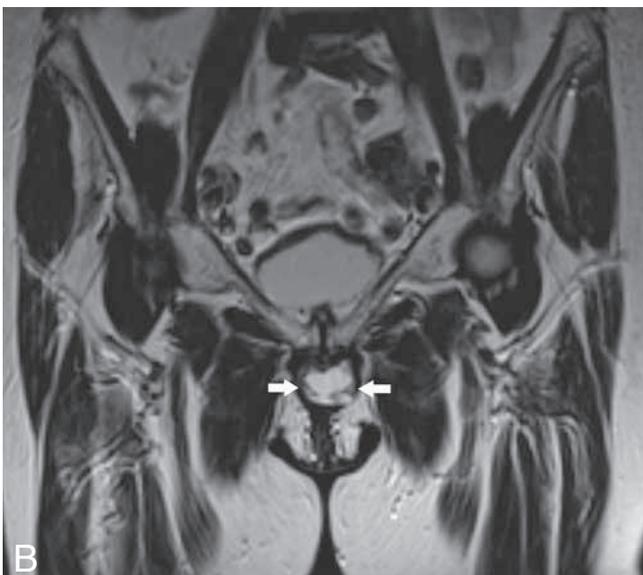
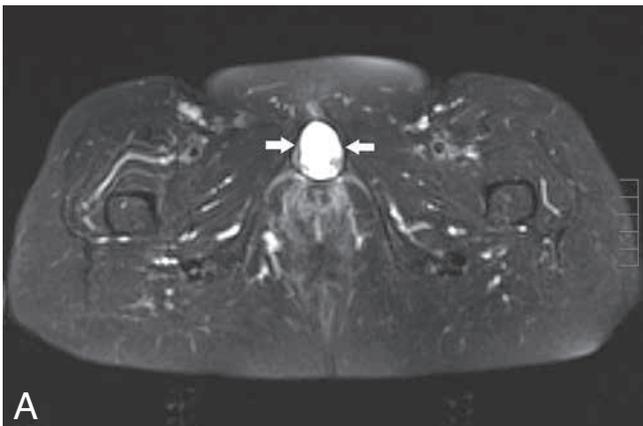


Fig. 3. — MR imaging. Axial fat-suppressed T2-WI (A) and coronal (B) T2-WI, axial spin-echo (SE) T1-WI (C) and axial fat-suppressed T1-WI after intravenous administration of gadolinium contrast (D). Note a well-delineated midline lesion (arrows), adjacent to the inferior aspect of the symphysis pubis. The mass is predominantly hyperintense on the T2-WI (A, B) with peripheral areas of low signal intensity. On T1-WI, the lesion is slightly more intense than muscle (C) and there is faint peripheral rim enhancement after intravenous administration of gadolinium contrast (D).

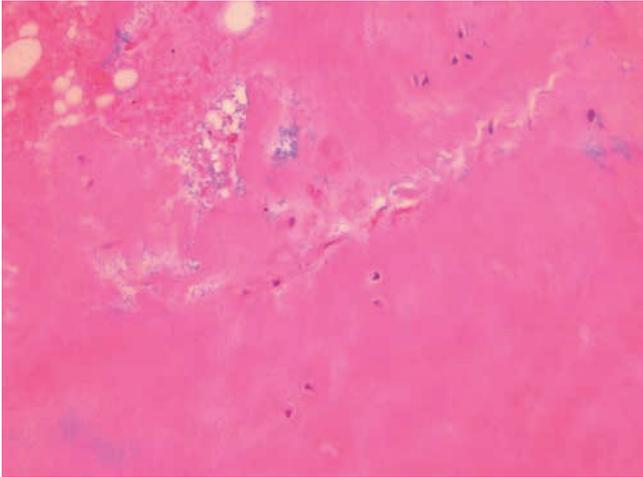


Fig. 4. — Photomicrograph of the histopathologic specimen showing mucoid degeneration of fibrocartilaginous tissue.

enhance (2-6). There may be some adjacent marrow edema at the pubic bones or fluid within the symphyseal cleft (3).

In case of uncertain imaging diagnosis, some authors (3) recommend to perform a CT-guided contrast injection into the cyst to prove communication with the adjacent pubic joint.

The differential diagnosis of vulvar cystic lesions includes Nabothian cysts, Bartholin's cysts, Gartner's cysts, urethral diverticulum and rarely malignant neoplasms (6, 8). The most valuable imaging clues to the correct diagnosis of the lesion are

the midline position and the close relationship with the pubic symphysis.

Histopathologically, mucinous degeneration of the fibrocartilaginous tissue of the symphysis pubis is found. The symphysis pubis is a non-synovial amphiarthrodial joint between the two pubic bones, lined by thin layer of hyaline cartilage, separated by a thick fibrocartilaginous disc (3, 5). Therefore, the cyst wall typically lacks true synovial cells, compared to a synovial cyst (3).

The treatment of choice is surgical resection of symptomatic lesions. In asymptomatic lesion, follow-up is preferred.

Conclusion

A subpubic cartilaginous cyst may be a rare cause of dysuria. Meticulous analysis of the close relationship of the lesion with the symphysis pubis and its cystic nature on imaging allows a correct diagnosis.

References

1. Alguacil-Garcia A., Littman C.D.: Subpubic cartilaginous cyst: report of two cases. *Am J Surg Pathol*, 1996, 20: 975-979.
2. Kim C.E., Beasley H.S.: MRI diagnosis of subpubic cartilaginous cyst. *Am J Roentgenol AJR*, 2004, 182: 144-146.
3. Gadde S., Brisson M.: Sub-pubic cartilaginous cyst—diagnostic utility of CT-guided contrast injection. *Skeletal Radiol*, 2011, 40: 1095-1098.
4. Sava M.R., Rubin B., Sundaram M.: Subpubic cyst. *Skeletal Radiol*, 2012, 41: 851-852, 867-868. doi:10.1007/s00256-011-1248-6.
5. Hoogendoorn R., Kayser H., Weening J., van Geloven A.: Subpubic cartilaginous cystic lesion presenting as a vulvar mass: a case report. *J Med Case Reports*, 2009, 29: 7294.
6. Bullock R.W., Soares D.P., Shah S.: Subpubic cartilaginous cyst: an unusual cause of a vulvar mass. *BMJ Case Rep*, 2009, doi:10.1136/bcr.11.2008.1232.
7. Ergun T., Lakadamyali H., Aydan O.: Subpubic cartilaginous cyst: incidental finding detected by abdominopelvic computed tomography. *Radiat Med*, 2008, 26: 46-49.
8. Kier R.: Non ovarian gynaecologic cysts: MR imaging findings. *Am J Roentgenol AJR*, 1992, 158: 1265-1269.