Two Common Pelvic Diseases detected on X-ray Pelvis

Minal Dhanvij[1*], Avantika Gupta[1], Bishnupriya Moharana[1], Chandrakant Munjewar[2] and Neha Gangane[1]

[1]Department of Obstetrics and Gynecology, AIIMS Nagpur, India

[2]Urology and Kidney Transplant Unit, AIIMS Nagpur, India

Received: 13 July 2023

Accepted: 8 August 9, 2023

*Corresponding author: minal9star@gmail.com

DOI 10.5001/omj.2024.48

A 42 years old multiparous lady presented with chronic pelvic pain predominantly on the right side and 2-3 episodes of heavy menstrual bleeding. She had relief after taking Tranexamic acid and hence managed conservatively but her pelvic pain affected her quality of life. So she visited the Orthopedician who advised her to X-ray the pelvis which showed a 5 × 5cm mass in the pelvis on the right side with calcifications. Another patient 58 years old postmenopausal lady presented with complaints of poor flow of urine, burning micturition, and heaviness in the lower abdomen. X-ray of KUB (Kidney, Ureter, and Bladder) and Ultrasonography pelvis was advised. The findings of X-ray KUB were similar to the first case.

Question

What is the most likely diagnosis of 1st and 2nd cases respectively?

1. Uterine calcified fibroid
2. Appendicolith
3. Large vesical calculus
4. Gossypiboma
5. Hydatid Cyst
6. Phlebolith

Answer

1. Calcified uterine fibroid [Figure 1]
2. Large Vesical Calculus [Figure 2]

Figure 1: Right sided pelvic calcified lesion with popcorn appearance- Right uterine wall Calcified fibroid.

Figure 2: Midline Stone in Pelvis with concentric lamellation- Vesical Calculus.

The first patient was then referred to our department because of an x-ray pelvis showing a right-sided calcified mass, trans-vaginal scan done for her was suggestive of a 5*6 cm calcified fibroid as it has a typical appearance of the echogenic rim with posterior shadowing on the right-sided uterine wall. After anaesthesia clearance patient underwent a total abdominal hysterectomy. The histopathology report was suggestive of calcified leiomyoma. Another patient had similar findings on X-ray KUB with concentric lamellation in the centre of the pelvis. On ultrasonography, it was found to be an 8.6*6.3 cm vesical stone. The patient was managed with a supra-pubic cystolithtomy. The large stone was taken out [Figure 3] and the bladder was sutured in 3 layers. The post-operative period was uneventful.

Figure 3: Large vesical Calculus after suprapubic cystolithotomy.

Discussion

Uterine fibroids are common in the reproductive age group that can be asymptomatic or can have variable clinical presentation ranging from heavy menstrual bleeding, dysmenorrhea, and mass per abdomen according to size, shape, and location. Also, degeneration in fibroids is common but calcified degeneration is a rare entity with a prevalence of 3-10% of cases.[1] The usual ultrasonography findings of uterine fibroids is mostly hypo-echoic heterogeneous nodules with a smooth regular outline with a predominant occurrence within women in the fourth to fifth decade of life.[2] The classical appearance of calcified fibroid on radiography is popcorn appearance or peripheral rim of calcification with diffuse central calcified areas.[3] The presence of calcification in the uterus is a reliable sign of uterine leiomyoma.[1]

Calcified fibroids are mainly seen in the menopausal age as an aging factor. In the long-standing fibroid, calcified degeneration takes place due to a decrease in blood supply to the uterus. For symptomatic patients with gross fibroid calcification, the treatment of choice is total abdominal hysterectomy with bilateral salpingo-oophorectomy similar to our patient. Asymptomatic patients detected incidentally can be managed conservatively. In the literature, cases of calcified fibroids are mainly reported in the post-menopausal age group and can be rarely seen in the reproductive or peri-menopausal age group as in our case.

Vesical stone composes almost 5% of urinary tract calculus.[4] The women are at risk for vesical stone due to voiding dysfunction and urinary stasis that can occur secondary to cystoceles, enteroceles, or findings of previous urethral surgery, the rare exception can be any foreign body like IUCD(Intrauterine contraceptive device) in the bladder becomes calcified and eventually forms a stone. The small vesical stones are asymptomatic and can be managed easily with transurethral cystolitholapaxy or percutaneous suprapubic cystolitholapaxy, but the large vesical stones require open suprapubic cystotomy that warrants the long hospital stay and prolong catheterization as in our case. Though the continuous advances in surgical equipment and the ability to downsize without sacrificing effectiveness could eventually render open surgery for stones obsolete. But the large vesical stone is challenging and calls for open suprapubic cystotomy.

Though radiographs are not the first investigation of choice for this both pathologies, still useful in detecting these pathologies and can lead us to investigate further and reach a diagnosis. Similar radiographic findings can be noted in Appendicolith which is a firm feces mixed with mineral deposits and may cause appendicitis and can present as a calcified mass on the right side of the pelvis and can usually be seen in children.[5] Also, the phleboliths are differentiated from urolithiasis by the presence of a radiolucent center and have a "comet tail sign" and the type 3 hydatid cyst is calcified but is usually present in the liver. Gossypiboma is a retained surgical swab and if retained for a long time can have calcified reticulate rind sign.[6] As the diagnosis differs treatment modality changes and hence further diagnosis with advanced techniques like Contrast-enhanced computed tomography or MRI is recommended.

References

1. Tantipalakorn C, Khunamornpong S, Sirilert S, Tongsong T. Popcorn Appearance of Severely Calcified Uterine Leiomyoma: Image-Pathological Correlation. Diagnostics (Basel) 2023 Jan;13(1):154. doi:10.3390/diagnostics13010154.

2. Kandel P, Calcified fibroid of uterus. Case study. Radiopaedia.org (Accessed on 13 Jul 2023) https://doi.org/10.53347/rID-152994

3. Emmanuel E, Klenam D, Edmund B, Abubakari B, et al. Assessment of the Clinical Presentations and Ultrasonographic Features of Uterine Fibroids in Adult Africans: A Retrospective Study. Oman Med J 2023;1(38):e459. doi:10.5001/omj.2023.36.

4. Schwartz BF, Stoller ML. The vesical calculus. Urol Clin North Am 2000 May;27(2):333-346. doi:10.1016/s0094-0143(05)70262-7.

5. Kaya B, Eris C. Different clinical presentation of appendicolithiasis. The report of three cases and review of the literature. Clin Med Insights Pathol 2011 Mar;4:1-4. doi:10.4137/CPath.S6757.

6. Lu YY, Cheung YC, Ko SF, Ng SH. Calcified reticulate rind sign: a characteristic feature of gossypiboma on computed tomography. World J Gastroenterol 2005 Aug;11(31):4927-4929. doi:10.3748/wjg.v11.i31.4927.