Infected gartner duct cyst
Published on 02.10.2015

DOI: 10.1594/EURORAD/CASE.12912
ISSN: 1563-4086
Section: Genital (female) imaging
Area of Interest: Genital / Reproductive system female
Abdomen
Procedure: Diagnostic procedure
Imaging Technique: CT
Special Focus: Cysts Pathology Case Type: Clinical Cases
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Patient: 30 years, female

Clinical History:
A 30-year-old woman presented to the emergency room with left lower quadrant pain for the last two weeks. Purulent vaginal discharge and urinary retention appeared additionally in the last 24 hours. High acute phase reactants levels and leukocytosis were found. MDCT was performed due to gynaecological findings (pelvic complicated cystic mass).

Imaging Findings:
Contrast-enhanced MDCT showed a rounded hypodense lesion with a thickened and enhanced wall located in the left margin of the upper portion of the vagina (Fig. 1-3). A communication between this lesion and the uterine cervix was identified (Fig. 2, 3).
A bicornuate uterus and left renal agenesis were incidentally discovered (Fig. 3, 4).
The right kidney was enlarged and presented a duplex collecting system morphology (Fig. 5). The ovaries were identified with a normal morphology.
The imaging diagnosis of infected gartner duct cyst with bicornuate uterus and renal agenesis was made and surgically proven.

Discussion:
Gartner duct cyst (GDC) is a cystic dilatation of mesonephric duct remnant [1-5]. The incidence of the disease is underestimated. Gartner ducts are identified in less than 25 percent of all adult women, and only one percent progress to Gartner duct cysts [3].

Mesonephric duct is found while the fetus is developing inside the maternal uterus and usually disappears after birth. Sometimes the duct remains after birth, accumulating proteinacious fluids and developing into a vaginal wall cyst, mainly during and after late adolescence [1-2].

Commonly Gartner duct cysts are solitary, small, unilateral and benign lesions. They are located in the anterolateral aspect of the superior portion of the vagina, following the course of the duct, but can occur anywhere and may be connected to the vagina or uterine cervix. [2, 5-6].

They are usually asymptomatic and often diagnosed in routine gynecologic examination or on CT, US or MRI as incidental findings. Larger cysts can cause mass effects on pelvic structures and may produce symptoms such as
dysuria, dyspareunia, pelvic pain, protrusion from the vagina... [1-3].
The most common complications are infection or haemorrhage and may cause acute pelvic pain [3].

On CT images the best clue to reach an accurate diagnosis is to identify a fluid-filled rounded structure in the anterolateral vaginal wall, which is usually smaller than 2 cm.

Low attenuation material is usually present within these lesions but higher attenuation densities may be seen if the cyst content is proteinaceous or haemorrhagic.

In contrast-enhanced CT there won’t be significant enhancement. But if the cysts have infected wall thickening, irregular peripheral enhancement and fat stranding may be seen.

MRI is the imaging modality of choice to characterize the cyst and differentiate vaginal cysts from other cystic pelvic lesions such as urethral diverticulum, Bartholin or Nabothian cysts and pelvic abscess.

On T1-weighted images they exhibit low to intermediate signal intensity depending on the degree of proteinaceous/haemorrhagic contents and high signal intensity on T2-weighted images [1, 3-5].

Most of gartner duct cysts present as an isolated finding, but these cysts may be associated with Mullerian duct anomalies (unicornuate, bicornuate or didelphys uterus), renal abnormalities (ipsilateral renal dysgenesis/agenesis, crossed fused ectopic, ectopic ureteral insertion) or diverticula of fallopian tubes [1-3].

Surgery is usually indicated for symptomatic cysts. There are multiple treatment options such as simple transvaginal excision, marsupialisation, aspiration or sclerotherapy [5-7].

**Differential Diagnosis List:** Infected gartner duct cyst with bicornuete uterus and renal agenesis., Pelvic abscess, Bartholin infected cysts, Nabothian infected cysts, Complicated vaginal inclusion cysts

**Final Diagnosis:** Infected gartner duct cyst with bicornuete uterus and renal agenesis.

**References:**

Description: Coronal MPR image showed a left renal agenesis and a right enlarged kidney. Origin: Department of Radiology, Hospital Universitario de Guadalajara, Guadalajara, España
Description: Sagittal MPR image showed an enlarged right kidney with duplex collecting system morphology. Origin: Department of Radiology, Hospital Universitario de Guadalajara, Guadalajara, España
Description: MDCT showed a cystic lesion with a thickened and enhanced wall located in the upper portion of the vagina (arrow). Origin: Department of Radiology, Hospital Universitario de Guadalajara, Guadalajara, España
Description: Sagittal MPR image revealed a communication between the cystic lesion and the uterine cervix (arrow). Origin: Department of Radiology, Hospital Universitario de Guadalajara, Guadalajara, España
Description: MDCT showed a bicornuate uterus as incidental finding (arrows). Note the communication between the lesion and the uterine cervix (asterisk). Origin: Department of Radiology, Hospital Universitario de Guadalajara, Guadalajara, España