

Case Report

Gartner's Duct Cyst Managed by Marsupialization

David D'Souza, MB CHB(BIRM) MR COG^{1*}, Amr Farag²

¹Consultant and Honorary Associate Professor Obstetrics and Gynaecology

²Lecturer Obstetrics and Gynaecology, Ain Shams University Egypt

Specialty Doctor Obstetrics & Gynaecology

*Corresponding author: Dr. David D'souza, MB CHB(BIRM), Obstetrics & Gynaecology Department, South Warwickshire NHS Foundation Trust, Lakin Road, Warwick, CV34 5BW, E-mail: david.d'souza@swft.nhs.uk

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Abstract

This case report discusses the unusual presentation of an 18 year old girl who had a history of deep dyspareunia, increased discomfort on micturition and defecation and occasional cramping pains. The definitive diagnosis of a Gartner's duct cyst was made and it highlights how consideration of unusual embryological cysts should be included in the differential diagnosis when dealing with such complaints. It also discusses the importance of imaging tools used to reach the provisional diagnosis and shows how conservative surgery can offer a smooth recovery and hazardous complications can be avoided.

Case Report

An 18 year old girl was seen in the gynaecology outpatient clinic with unusual swelling in the upper right side of her vagina. The patient was nulliparous and had initially sought advice from her GP with "persistent vaginal discharge". The patient initially attended the Genito-urinary clinic and the only thing found at this stage was bacterial vaginosis and warts and she received appropriate treatment for this.

The patient's periods started at the age of 12 and they had been regular up until starting the progesterone only pill one year previously. The patient decided to stop taking the progesterone only pill eight weeks prior to her initial consultation and had started to menstruate on the day before being seen. The patient's weight and appetite had been stable and she was using condoms as a form of contraception.

The patient reported symptoms of deep dyspareunia, discomfort on micturition and defecation as well as occasional "cramping pains" twice a day but felt that she could completely empty her bladder and did not experience any tenesmus, blood

or mucus in her stools.

The patient had no other significant past medical history of note or history of pelvic inflammatory disease and was not on any medication and had no known allergies. The patient smoked 10 cigarettes a day and only drank occasional alcohol and had no family history of note.

On examination, the patient's abdomen was soft and non-tender with no masses palpable, whilst a speculum examination showed an unusual swelling in the right upper side wall of her vagina (Figure 1). The cervix itself appeared "normal" and the uterus was anteverted, non-bulky and mobile.

The swelling appeared to be "soft" rather than "tense" and the initial differential was a remnant of the Gartner's duct cyst or a hernia. The initial concern was for exploring this area surgically, due to the uncertainty of the structures involved above or within it. An ultrasound scan confirmed a 4 cm elliptical "fluid-filled" cystic mass in the upper right side of the vagina (Figure 2).



Figure 1



Figure 2

The cyst was approximately 4 x 4 cm in size and was marsupialized in the day surgery unit. Brown serous fluid exuded from the cyst and when this was cultured, alpha-haemolytic streptococci were found. The histology confirmed benign columnar epithelium consistent with a benign epithelial cyst and the diagnosis of a Gartner's duct cyst was made. The patient made an uneventful recovery and was symptom-free at her check-up 6 weeks post-operatively.

Discussion

Gartner's ducts are identified in approximately 25 % of all adult women and almost one percent develop into Gartner's duct cysts. During embryological development, the mesonephric (Wolffian) ducts develop, form their pre-determined structures and later regress [1]. A few postulations into the etiology of such cysts have been made. These include cranial displacement of the ureteric bud, incomplete incorporation of

the distal Wolffian duct into the urogenital sinus, or incomplete absorption of this duct into the Mullerian duct. Persistence of these structures produce a cyst with the possibility of an ectopic ureter inserted into the cyst rather than into the bladder [2].

Classically, Gartner's cysts are located in the upper antero-lateral part of the vagina. The patients are generally asymptomatic, and most commonly the cysts are diagnosed upon routine gynecologic examination. Some patients however, may present with symptoms of persistent vaginal discharge, dysuria, incontinence, dyspareunia, pelvic pain, or swelling in the vagina and huge cysts up to 14 cm in size have been reported in the literature [3]. These cysts are often benign and malignant transformation of the cysts is exceptionally rare [4].

The differential diagnoses for these cystic-like structures located in the upper vagina and uterine cervix could include nabothian follicle cysts or more rarely, specific obstructed Müllerian duct anomalies such as a uterus didelphys with an obstructed hemi-vagina. The latter is strictly not a true cystic lesion as it may contain hyperechogenic material (i.e. obstructed menstrual debris) and patients with these lesions commonly have cyclic symptoms of dysmenorrhoea. In contrast, patients with nabothian follicle cysts are usually asymptomatic [5].

Transvaginal ultrasonography is a useful tool to allow an accurate diagnosis of the structure to be made (Figure 2). Gartner duct cysts are often in close proximity to the uterine cervix and have an eccentric appearance to the cervical canal [6].

Surgical excision of these cysts is frequently associated with bleeding due to the natural vascularity of the vulva and the vagina. This may also be associated with injury to the nearby structures such as the urethra, bladder and the ureters, with the subsequent development of genitourinary fistula.

Laser surgery may help in minimize some post-operative complications such as dyspareunia and sexual dysfunctions. A novel method was described for management of such cysts, with aspiration of the cystic fluid and sclerotherapy with 5% tetracycline solution. This had good results and no side effects were reported in this case series [7].

This case highlights the fact that gartner's duct cysts may present with symptoms of vaginal discharge, dyspareunia or pressure symptoms as well as quite significant vaginal swellings. A hernia could be a differential diagnosis but the non-compressible cystic nature of the swelling and the site of the swelling were more in favour of the provisional diagnosis of a Gartner's duct cyst. Transvaginal sonography is a useful diagnostic tool in this differential diagnosis and

marsupialisation of the structure under general anaesthetic was successful in treating the patient's symptoms.

MCQ'S (TRUE OR FALSE)

Gartner's duct cysts

Are embryological remnants of Mullarian duct	F
Are usually symptomatic	F
Can be associated with urinary anatomical abnormalities	T
Are typically located in lower postero-lateral aspect of the vagina	F
Rarely show malignant transformation	T

A Gartner's duct cyst is a benign vaginal cystic lesion that arises from the vestigial remnant of a mesonephric duct (Wolfian duct) not mullarian duct. They are usually too small to produce symptoms and typically occur along the upper antero-lateral walls of the vagina, following the course of the Gartner's duct. Being a remnant of the mesonephric ducts, which normally give rise to the urological system, there is a small association between Gartner's duct cysts and metanephric urinary anomalies, such as ectopic ureter & ipsilateral renal hypoplasia. Malignant transformation is extremely rare with reported cases developed into clear cell carcinoma [8].

The following is a differential diagnosis of Gartner's duct cyst

Bartholin's cyst	F
Nabothian cyst	F
Inclusion cyst	T
Hydatid cyst of Morgagni	F
Urethral diverticulum	T

Differential diagnoses of Gartner's duct cyst include other cystic vaginal lesions. A Bartholin's cyst is located near the introitus deep to the posterior third of the labia majora, rather than the anterior lateral surface of the vagina where the Gartner's duct cysts are found [9]. Nabothian cysts appear as well-circumscribed cystic lesions of the cervix not the vagina [10]. A cystocele is a prolapsed bladder through the anterior vaginal wall, but it will reduce when the bladder is catheterised, whereas a Gartner's duct cyst will not [11]. Vaginal inclusion cysts, which result from trauma or surgery, can however be another valid differential and can have similar appearances to Gartner's cysts [12]. Urethral diverticulum is a localized out-pouching of the urethral mucosa forming a cystic lesion in the front of the vagina but usually associated with urinary incontinence, dysuria, and dyspareunia or post micturition dribbling [13]. A Hydatid cyst of Morgagni is a paratubal cyst close to the fimbria of the Fallopian tube and cannot therefore be seen on the external genitalia [8].

Declaration of interests: There are no conflicts of interest in this report

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