

# Tortuosed dilated ureter and urinary retention due to giant gartner duct cyst

## Dev gartner kanalı kistine bağlı kıvrımlı dilate üreter ve idrar retansiyonu

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### ABSTRACT

Gartner duct cyst (GDC) is a type of benign congenital vaginal cyst. It is rarely seen in girls and young women. It can also be observed in urological anomalies, and acquired urinary system diseases secondary to GDC have not been well defined. GDC is generally observed to be smaller than 2 cm and is asymptomatic. The larger GDC causes lower urinary tract complaints, sexual dysfunction and intestinal problems. GDC coming out of the vagina can also be perceived as vaginal organ prolapse. Pelvic Magnetic Resonance Imaging is the best radiological examination to identify GDC. Surgical treatment is applied to symptomatic due to GDC. There is no standardized surgical treatment method. In this study, we presented the case of a 74-year-old female patient who developed urinary retention and left tortuosed dilated ureter due to giant GDC. After the physical examination, abdominal ultrasonography and whole abdominal computerized tomography were performed to the patient. Then, cystoscopy, ureterorenoscopy and vaginal marsupialization were applied. Acquired urologic disease due to giant GDC can be seen in elderly woman. Vaginal marsupialization can be applied to giant GDC that mimic vaginal organ prolapse.

Key words: Gartner Duct Cyst, Tortuosed Dilated Ureter, Elderly Woman, Marsupialization

### Öz

Gartner kanal kisti (GKK), iyi huylu bir konjenital vajinal kist türüdür. Nadiren kız çocuklarında ve genç kadınlarda görülür. Ürolojik anomaliler de görülebilmektedir ve GKK'ye sekonder edinilmiş üriner sistem hastalıkları iyi tanımlanmamıştır. GKK'nin genellikle 20 mm'den küçük olduğu gözlenir ve asemptomatiktir. Daha büyük GKK, alt üriner sistem şikayetlerine, cinsel işlev bozukluğuna ve bağırsak sorunlarına neden olur. Vajinadan çıkan GKK aynı zamanda vajinal organ sarkması olarak da algılanabilir. Pelvik Manyetik Rezonans Görüntüleme GKK'yi tanımlamak için en iyi radyolojik incelemedir. GKK nedeniyle semptomatik olanlara cerrahi tedavi uygulanır. Standartlaştırılmış bir cerrahi tedavi yöntemi yoktur. Bu çalışmada dev GKK nedeniyle idrar retansiyonu gelişen ve beraberinde sol kıvrımlı dilate üreteri olan 74 yaşında kadın hasta olgusunu sunduk. Hastanın fiziki muayenesi yapıldıktan sonra abdominal ultrasonografive tüm batin bilgisayarlı tomografi uygulandı. Daha sonra sistoskopi, üreterorenoskopi ve vajinal marsupializasyon uygulandı. Dev GKK'ye bağlı kazanılmış ürolojik hastalık yaşlı kadınlarda görülebilmektedir. Vajinal organ prolapsusunu taklit eden dev GKK'ye vajinal marsupializasyon uygulanabilir.

Anahtar kelimeler: Gartner Kanal Kisti, Kıvrımlı Dilate Üreter, Yaşlı Kadın, Marsupializasyon

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## Introduction

GDC develops from the embryological remnant of the mesonephric duct and is benign. It is within the congenital vaginal cyst group (1). Its incidence is seen as 0.1-0.2% (2). GDC is diagnosed during routine gynecological examination in young women and its size does not exceed 2 cm (3). They generally progress asymptomatic. When the GDC reaches a sufficient size due to mucus secretion, it causes sexual, urinary and intestinal complaints (4). It is important not to palpate a solid structure during physical examination for the diagnosis of GDC and radiological imaging methods are also used. Differential diagnosis includes urethral cyst, urethral diverticulum, bladder diverticulum, ureterocele, benign/malignant vaginal cysts and vaginal organ prolapse (3). Asymptomatic patients with GDC are followed but different surgical options are available for patients who become symptomatic (5). In this study, we presented the case of a 74-year-old female patient who developed urinary retention and left tortuosed dilated ureter due to giant GDC. She had both urinary and gynecological symptoms. Due to these symptoms the patient was operated.

## Case Report

A 74-year-old female patient applied to the urology polyclinic with complaints of inability to urinate, chronic pelvic pain, and left flank pain. She had a medical history of hypertension and right nephrectomy. A right nephrectomy was done for non-functional kidney with a chronic urinary infection. During the physical examination, a 35x20 mm cystic structure was observed bulging from the right vaginal wall and in close proximity to the urethra, and a globe vesicale was present. The patient was consulted to the gynecology department. By vaginal examination, it was determined that the cyst was advancing towards the peritoneal cavity and was not solid. Abdominal Ultrasonography (USG) revealed increased bladder dimensions, left hydronephrosis, left ureterocele, and a giant cystic mass at the base of the bladder extending towards the peritoneum. On the whole abdomen computerized tomography (CT), the size of the cyst was observed to be 120x90x50 mm. The cyst was in close proximity to the bladder and intestines. There was suspicion of left hydronephrosis, stricture/thickening of the left ureter, and left ureterocele (Figure 1, Figure 2, Figure 3 and Figure 4). Cystourethroscopy and left ureterorenoscopy were performed. No urethral pathology was observed. It was observed that there was compression on the bladder from the posterior. The left ureter lumen and left renal pelvis were observed to be dilated and tortuosed. Tortuosed dilated widespread ureteral lumen were observed from the left distal ureter to the middle ureter then we decided to apply vaginal cystectomy. After vaginal dissection, marsupialization was performed because the cyst wall was observed to be adherent to the surrounding organs (bladder and rectum). The pathology result was reported as GDC. In the third and sixth month follow-up the patient had no postoperative complaints, Abdominal USG was also performed in controls. It reported that vaginal cyst was not observed and left hydronephrosis was observed to have regressed.

## Discussion

GDC is included in the congenital vaginal cyst group. However, international classifications of congenital anomalies do not describe vaginal cysts in detail and it is generally seen in girls and young women by the literature (5).

The clinical complaints of symptomatic patients are determined by the size, localization and infection status of the GDC (5). Vaginal fullness, dyspareunia and dysuria are the most common complaints. Depending on the large size of the GDC,

stranguria, urinary retention, bowel complaints, and palpable cystic mass complaints outside the vagina may also be observed (6,7).

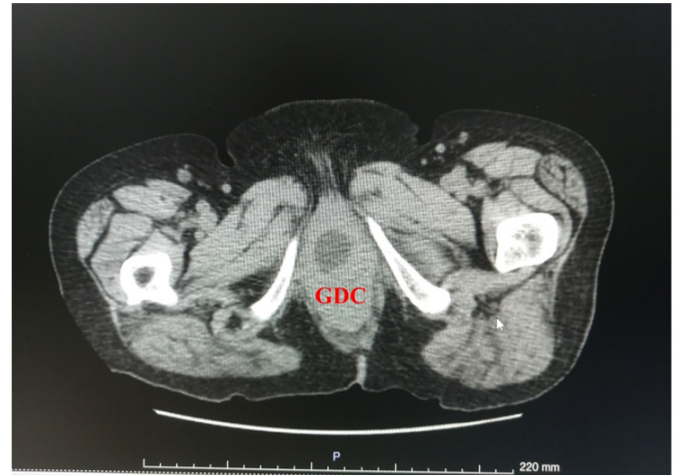


Figure 1. The end of GDC in vagina

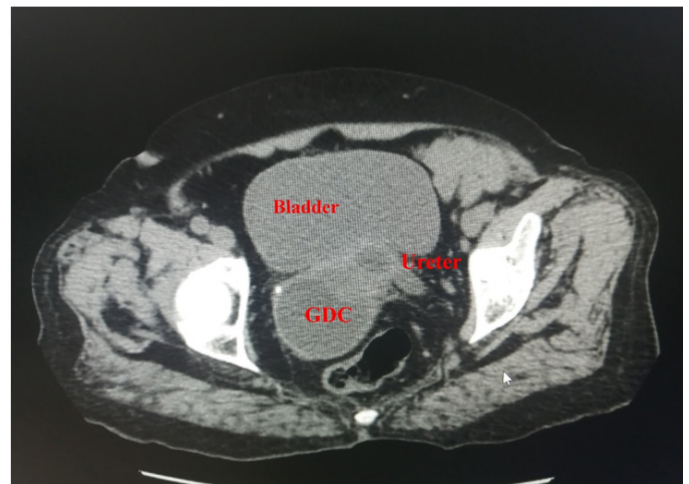


Figure 2. GDC elevated the bladder's left floor side with left dilated ureter

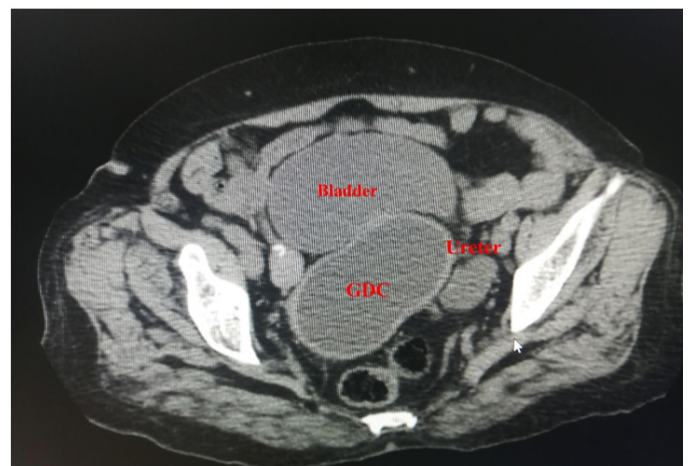


Figure 3. The largest transvers diameter of GDC between bladder, ureter and bowels

Small-sized GDC and periurethral cysts are monitored with transvaginal ultrasound(2). Since GDC can be seen together with urological anomalies (ectopic ureter, unilateral renal dysgenesis and renal hypoplasia), it will be useful to evaluate the urinary system with USG, abdominal CT and pelvic MRI (8,9). We see

that whole abdominal CT is also used in the literature. But Pelvic MRI is the best imaging method for evaluation of GDC in the preoperative period. It is used to determine the anatomical location of GDC, its number, benign/malignant distinction, and differential diagnosis due to vaginal organ prolapse (10,11).

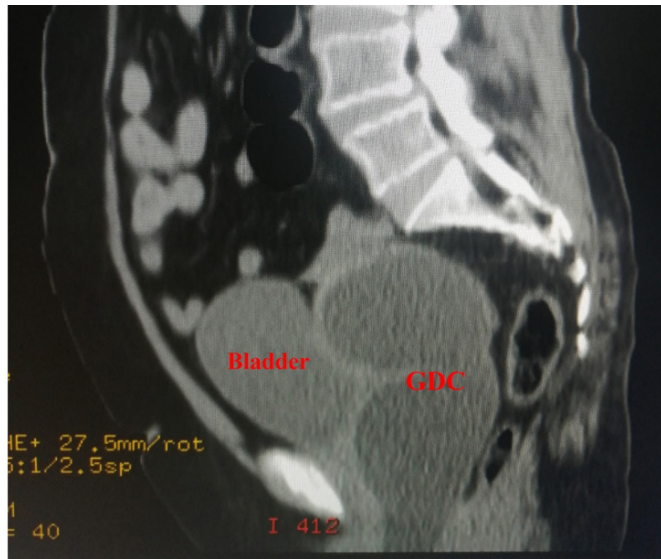


Figure 4. The sagittal plane of GDC

Among the causes of urinary retention in female patients, neurogenic bladder disease, urethral diseases (urethral stricture, urethral stone and urethral cancer) and cystic/solid masses that may cause external pressure on the urethra or bladder can be observed (12). The etiology of ureteral dilatation is due to urinary system infection, ureteral stones, vesicoureteral reflux disease, ureterovesical junction stenosis, uro-genital system cancers and intra-abdominal vascular compression. Although very rare, ureteral dilatation may be observed due to a pathology in the ureteral wall without any cause (13,14). Tortuosed dilated ureter is mostly observed in grade 4-5 stages of vesicoureteral reflux disease (15).

It is important to evaluate the relationship between the cyst and the urethra in vaginal and periurethral cysts located close to the urethra, and the relationship between the cyst and the bladder in large cysts close to the bladder, and cystourethroscopy can be used for this (16). It can provide information about urethral diverticulum, bladder diverticulum, ureterocele and ectopic ureter (16). Ureterorenoscopy is also used for differential diagnosis of hydroureteronephrosis (ureterovesical stenosis, upper urinary tract tumor/stone, ureteral dilatation), ureterocele and ureteral strictures (17).

Asymptomatic patients are followed for GDC treatment. There were patients with a follow-up period of up to 17 years in the literature (2). There is no standard method in the surgical treatment of GDC. Available methods are cyst excision, tetracycline injection followed by aspiration, marsupialization, unroofing/partial excision, and puncture/evacuation (18). Marsupialization may be preferred in deep-seated cysts to avoid bleeding (10). The recurrence rate after cyst excision for the GDC series of 50 cases was observed to be 8% (18). In the literature, the recurrent GDC originated from multiloculated and large cysts. In recurrent cases, it is recommended to completely excise the cyst capsule (10).

## Conclusion

GDC can be seen in elderly women. The urinary system of the patient with a large GDC should be carefully evaluated.

Acquired urological diseases may be seen due to large GDC. Vaginal marsupialization can be applied in the surgical treatment of a patient with a large GDC that is perceived as vaginal organ prolapse.

**Ethics Committee Decision:** Since it is a case report, ethics committee approval was not required, and written consent was obtained from the patient for the presentation of the case.

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