

Transperitoneal laparoscopic treatment for recurrence of a giant multilocular prostatic cystadenoma: A case report and review of the literature

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DISCUSSION

We described a large, multilocular, cystic retrovesical neoplasm composed of cysts and glands lined by histologically benign cuboidal or columnar epithelium and surrounded by hypocellular stroma. This kind of rare lesion was first described by *Watanabe et al.* (1) in 1990. The multilocular prostatic cystadenoma can occur in patients of various age but has been reported to range from 15 to 80 years; it is usually a retrovesical mass that varies in size, anatomically separated from the prostate and contiguous structures, or attached by a pedicle to the prostate (2-7). The clinical presentation in all patients with multilocular prostatic cystadenoma included obstructive voiding symptoms with or without a palpable abdominal mass; in some cases the patient main symptom was azoospermia, likely caused by compressed seminal vesicle. In all reported cases, the diagnosis was made following surgical resection, but the anatomical relationship of the mass to the native prostate varies. It is located in the midline between prostate and rectum and may arise from the prostate gland either in continuity with the prostatic urethra or separated from it, sometimes it may arise as a lesion distinct from the prostate gland. Retrovesical and retroperitoneal multilocular tumors that should be differentiated are diverse and include the phylloides variant of atypical prostatic hyperplasia, mesenchymal neoplasms (benign or malignant) (7), multilocular peritoneal inclusion cysts (8), lymphangiomas (9), mullerian duct cysts, seminal vesicle cysts (10), sarcoma of the prostate, prostatic leiomyoma, echinococcal cysts of the prostate, cystic dilatation of the utricle, prostatic abscess, diverticulum of the ejaculatory duct or ampulla of the vas deferens, teratoma and prostatic cystic carcinoma (11-12). Prostatic cystadenomas do not invade adjacent organs, they produce a mass effect on them. *Rusch et al.* (12) reported that radiographic evidence of invasion of the adjacent structures primarily excludes the possibility of a giant multilocular prostatic cystadenoma. The cystic spaces of the cystadenoma is lined by a single line of cuboidal cells, with nuclei presenting no atypia or prominent nucleoli. These cells appear similar to the prostatic acinar columnar cells that co-express prostate specific antigen and

prostate acid phosphatase. In contrast the cells lining the cystadenocarcinoma show nuclear stratification and papillary proliferations; nuclear enlargement and prominent nucleoli are uniformly present. The growth pattern of cystadenocarcinoma is invasive, with haphazard destruction of intervening prostatic parenchyma and aggressive invasion into the periprostatic adipose tissue (13). Immunohistochemical staining for PSA may be helpful in establishing the prostatic epithelia origin of the mass; however it seems that serum PSA helps little in establishing the diagnosis; even needle core biopsies of the prostate may be inconclusive and usually reveal benign prostatic tissue. Computed tomography (CT) and in particular MRI can provide information on a large multicystic process originating from the prostate, but a clear origin cannot always be determined. According to *Kirsch et al.* (7) transrectal MRI can be helpful in defining the extent and architecture of the lesion, as well as showing the absence of local invasion. Although imaging studies are useful for determining the extent and invasiveness of the lesion, it is difficult to diagnose GMPC, despite extensive radiologic assessment (transabdominal and transrectal ultrasound, CT and MRI of the pelvis), and only by histology is a clear and definite diagnosis possible. The natural history of prostatic cystadenoma remains unknown and opinion on the optimum management strategy is divided. Some reports in literature confirm that multilocular cystadenomas are indeed analogous to the prostate gland in term of their susceptibility to oncogenic transformations. Treatment options include surgical or endoscopic excision, transurethral drainage or aspiration via a transperineal or transrectal approach depending on their size and location. *Matsumoto et al.* (11) have reported that surgical excision may not be necessary, even if most authors recommend it. This is perhaps justified for a number of reasons. Firstly, as mentioned, definitive diagnosis still remains histological. Furthermore, although they usually are benign lesions, some authors consider cystadenomas as locally aggressive and possibly adherent to surrounding viscera and, considering the risk of recurrence following surgery, they strictly advice pelvic exenteration with

Table 1.

Author	Pt age	Symptom	PSA (ng/ml)	Mass size (cm)	Treatment strategy	Follow up
Maluf et al.	28	Acute urinary retention		19 x 8 x 7	Surgical excision	4 mo. No recurrence
	38	Dysuria		45 x 35 x 13	Exentration +pelvic RT	2 years, local recurrence
Lim et al.	64	Abdominal pain, obstruction symptoms		17 x 13 x 7	En-bloc excision	
Levy et al.	56	Urinary retention, voiding dysfunction		13 x 10 x 7	Mass resection	8 years, no recurrence
Kirsch et al.	65	Obstruction symptoms, hematuria	30,2	15 x 12,5 x 3	Enucleation	1 year, no recurrence
Seong et al.	43	Hematuria	68,2	8 x 7,5 x 6	Mass resection	No recurrence
Matsumoto et al.	35	Gross hematuria	14,4	9 x 8 x 6	Cystoprostatectomy	2 years, no recurrence
Rusch et al.	30	Urinary retention	2	15	Mass resection	18 mo. No recurrence
	41	Acute urinary retention		15	Excision	
Allen et al.	52	LUTS	3	14 x 10 x 1	Resection	
Datta et al.	71	Urinary retention	40	12	Excision, cistoprostatectomy,	11 years, recurrence x 2
Olgun et al.	23	Obstructive symptoms, difficulty in defecation	20,2	12 x 17 x 12	Excision	18 months no recurrence
Ranjani et al.	61	Urinary frequency	6,96	29 x 22 x 15	Excision	6 months no recurrence
Sarvanandan et al.	15	Lower abdominal pain, urinary retention		11 x 9 x 5	Enucleation	
Choi et al.	57	Lower abdominal mass, dysuria		15 x 10 x 8	Laparotomic resection	
Hauck et al.	43	Acute urinary retention	6	14	Radical retropubic prostatectomy temporary colostomy	40 months no recurrence
Ganesan et al.	28	Reduced urinary stream, hesitancy, frequency	1,6	9,9 x 8,5 x 7,3	Laparotomic subpartial debulking	
Tuziak et al.	42	Obstructive urinary symptoms	0,04		Laparotomic prostatectomy (seminal sparing)	2 years no recurrence
	76	Bladder outlet obstruction	9	12	Pelvic exentation (cystadenocarcinoma)	Three recurrence
Park et al.	61	Abdominal distension, urinary retention, aspermia	38,2	14 x 10,8 x 10,6	Surgical exploration	1 year no recurrence
Chowdhury et al.	35	Hematuria, difficulty with micturition		20 x 11 x 15	Laparotomic excision	
Thomas et al.	57	Acute urinary retention			Laparotomic incomplete removal	4 months recurrence
Lee et al.	71	Obstructive symptoms		13,7	Radical cystoprostatectomy	1 year no recurrence
Mosharafa et al.	36	Infertility	0,7	9 x 7 x 6	Laparotomic partial prostatectomy	
Present case	74	Hypogastric pain, obstructive voiding symptoms	20,5	11,6 x 9 x 8	Laparoscopic resection, marsupialization	4 years, no recurrence

complete excision of the prostatic lesion (14). According to our experience such approach looks too much aggressive, especially considering that also a minimally invasive approach allows a histological diagnosis; in addition GMPC is generally a benign condition with a probability of malignant degeneration comparable to any other benign prostatic disease. In our case report besides, the previous conservative approach allowed the patient to ensure the preservation of urinary and sexual functions for a period of 16 years, offering a definitely excellent quality of life.

In the case reported by Maluf et al. (2) incomplete resection led to a recurrence that was successfully treated with pelvic exentation while in the case reported by Datta et al. (3) a recurrent tumor was treated with a luteinizing hormone-releasing hormone agonist. In Table 1 we show a comparison of clinical findings, mass size, PSA level, treatment and follow up of GMPCs reported in literature. Actually the incidence of recurrence is difficult to judge since many reports are silent on this matter. Since our case was also associated with a local recurrence, we believe that there is a significant chance of this complication; however, we believe that a wide local exci-

sion is adequate to successfully remove the tumor and any asymptomatic recurrences should be initially managed conservatively as the tumor may regress with no active treatment.

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