Case Report

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Seminal Vesicle Cystadenoma Presenting as a Giant Cystic Abdominal Mass: Case Report and Literature Review

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Abstract

Benign primary tumors including cystadenomas are the rarest tumors of the seminal vesicles. All around only 22 cases of cystadenoma of the SV have been reported since 1944. The diagnosis is typically made on final pathology since clinical findings and imaging techniques are non-specific. The only curative treatment is surgical resection, either by open or laparoscopic surgery. In our work, we report the case of a giant seminal vesicle cystadenoma in an 80 years-old patient in whom the huge abdominal cystic mass was suspicious to be related to a malignant process since it presented intimate contact with pelvic structures. Pathological examination after excision of the mass has confirmed the nature of the huge mass as a benign cystadenoma of the seminal vesicle.

Keywords: Cystadenoma; Seminal vesicles; Benign seminal vesicle tumor

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Introduction

The seminal vesicles are paired organs that have a posterior location to the bladder and prostate. A seminal vesicle has a capacity for around 4 ml, and has a length of 5-7 cm. The secretions of seminal vesicles make up 80% of seminal fluid [1]. Primary tumors of the seminal vesicles are very rare and could be benign or malignant [2] and Benign tumors, such as cystadenomas are rarer than malignant ones [3]. They are usually present in second and third decades of life. High-resolution trans-rectal ultrasonography (TRUS) guided biopsy can be useful for assisting the diagnosis. CT scan and MRI are more performing techniques to characterize the lesion of the seminal vesicle [1]. Because of the rarity of these tumors, there is no defined treatment for their management [4]. We report the case of an 80 years old patient, with a giant cystadenoma of the seminal vesicle, along with a review of the literature.

Case Report

We report the case of an 80 years old male patient, who was hospitalized for a 1-year history of abdominal distension along with a 6 months history of low urinary symptoms made of urgency and dysuria. The patient had also a history of a treated white line hernia 20 years before the actual symptoms. Clinical examination of the patient revealed an enlarged rubbery prostate at the digital rectal examination. The prostate specific antigen (PSA) was 32 ng/ml, carcinoembryonic antigen (ACE) was 1, 84, Human Chorionic Goadotropin Beta (Beta HCG) and Carbohydrate antigen 19.9 (CA 19.9) were negative. Enhanced abdomino- pelvic computed tomography revealed a voluminous multiloculated cystic lesion occupying the sub, intra and extraperitoneal spaces, repressing the digestive tract and the vascular axis without signs of invasion. This lesion is crossed by septas, enhances and measures approximately 297 x 180 mm. It was in intimate contact with scrotum, corpus cavernosum and the recto-sigmoid colon (**Figure 1**). Since the mass had a huge volume and had

intimate contact with pelvic structures, a possible malignant behavior was highly suspected. Laparotomic exploration was performed. It revealed a huge cystic mass with many fibrous adherences entrapping the sigmoid colon and the upper portion of the rectum. It was necessary then to excise the mass along with the entrapped sigmoid colon and the upper portion of the rectum since a diagnostic of malignancy couldn't be rules out, enabling a curative R0 resection. Pathological examination of the resected specimen has shown a rubbery and lampy nature of the mass with a rough external surface. Microscopic examination of samples taken from the mass showed the mutlicystic nature of the mass. A stratified epithelium made of basal and luminal cells layered each cystic cavity. Luminal cells are columnar, have a light eosinophilic granular cytoplasm and a fine nucleolus. An eosinophilic amorphous substance occupied the lumen of cystic spaces. The luminal cells express cytokeratin 7, and do not express cytokeratin 20, cytokeratin 5/6, calretinine or CD34. The smooth muscle cells present between the cystic cavities expressed SMA (Smooth Muscle Actin) **(Figures 2-6).** A diagnosis of a giant cystadenoma of the seminal vesicle was made.

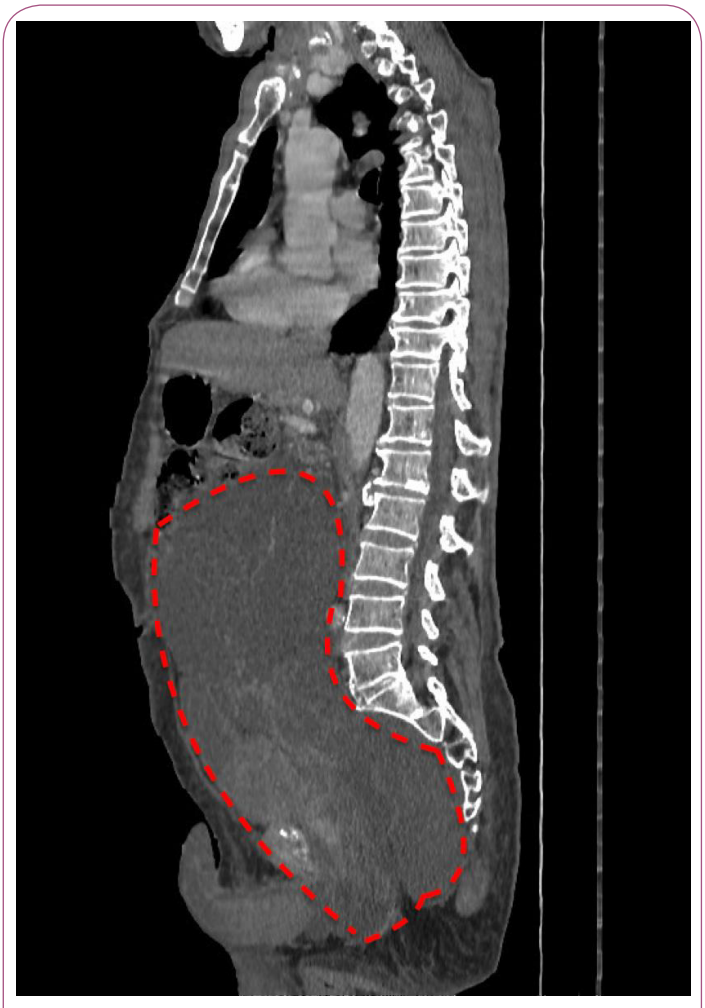

Figure 1 Sagittal enhanced CT-scan shows a voluminous multiloculated cystic lesion occupying the sub, intra and extra peritoneal spaces, repressing the digestive tract and the vascular axis (Discontinuous line).

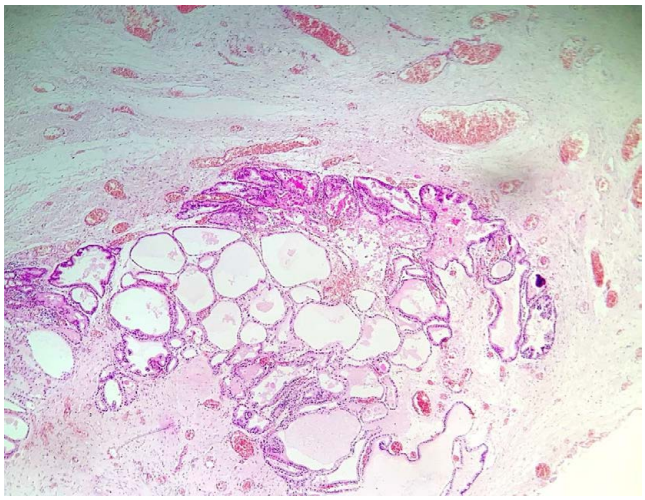

Figure 2 Microphotography at low magnification showing the mutlicystic nature of the mass. An eosinophilic amorphous substance occupies the lumen of these cystic spaces (HE; 40X).

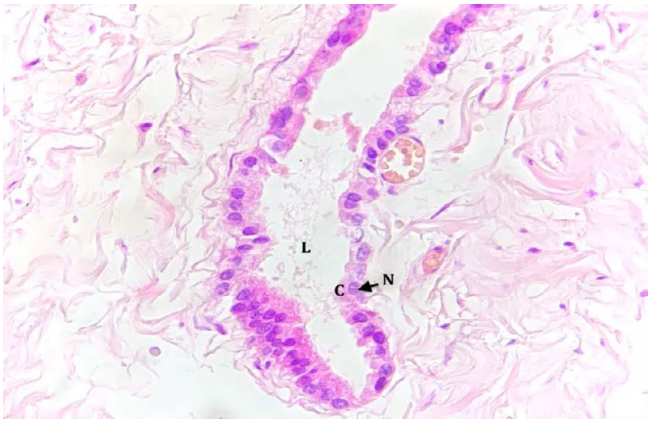

Figure 3 Microphotography showing luminal cells. These cells are columnar, have a light eosinophilic granular cytoplasm and a fine nucleolus (L: Lumen; C: Cytoplasm; N: Nucleus) (HE; 400X).

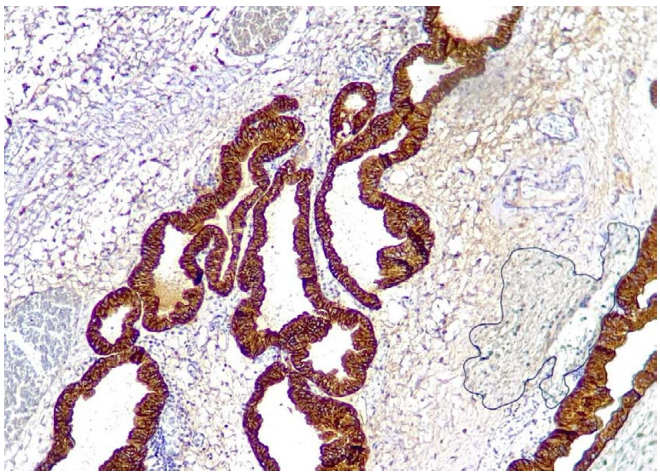

Figure 4 The luminal cells express cytokeratin 7.

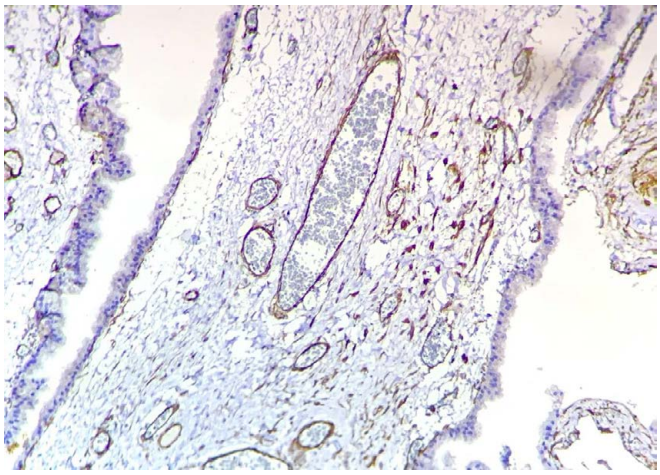

Figure 5 Smooth muscle cells present between the cystic cavities express SMA.

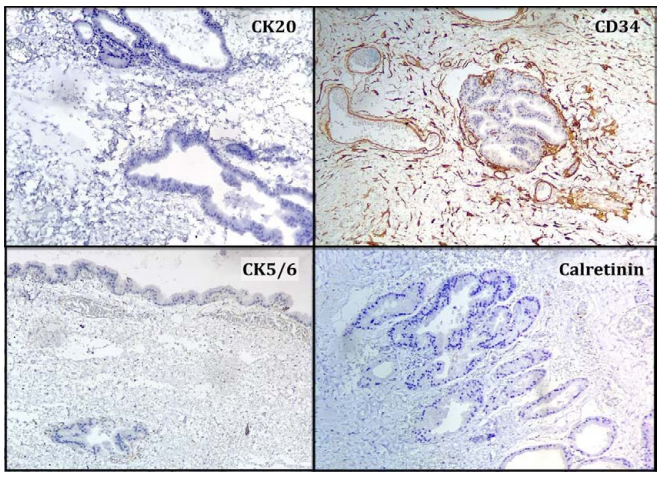

Figure 6 Luminal cells don't express cytokeratin 20, cytokeratin 5/6, calretinine or CD34.

Discussion

Seminal vesicles, as it is for the kidneys, originate from Wolffian (mesonephric) duct during embryogenesis [5]**.** Among all tumors of the seminal vesicle (SV), benign primary tumors including cystadenomas are the rarest ones [6]. Other neoplasms include fibromas, leiomyosarcomas, schwannomas and papillary adenomas. The unilateral nature of tumor favors its primary origin [1]. Seminal vesicle cystadenoma is a mixed epithelial stromal tumour (MEST) of the seminal vesicle [6]. This tumor originates from the embryological residues of the müllerien ducts. It has been first reported in 1951 [7]. Cystadenomas of the seminal vesicle typically occurs in middle-aged and elderly men. They are almost never bilateral. The diagnosis is typically made on final pathology after surgical resection [8]. In the English literature, About 22 cases of cystadenoma of the SV have been reported since 1944 to 2019. The median age of reported cases was 48. Different symptoms were described by patients such us lower abdominal pain, haematospermia, urinary irritation, dysuria, hematuria. In some cases, no symptoms were recorded [9]. Since the symptoms are non-specific, patients with seminal vesicle cystadenomas are frequently misdiagnosed and could potentially be treated with antibiotic and NSAIDs [4,10]. Occasionally, infertility is the main feature [10]. In most cases, the diagnosis is obtained in adults in the third decades of life [11–16]. The median diameter of the reported tumors was 8.8 cm. The follow-up varied between different cases and recurrence was reported in two cases. Ultrasonography is considered as an important screening test since it is convenient, fast and presents no risk of radiation. The second important screening tool is enhanced CT, allowing determination of the nature if the tumor. MRI accurately defines the anatomic relationships of the tumor and is therefore useful for surgical planning [9]. The clear boundaries of the lesion, the regular shape, and the absence of infiltration provide evidence of a benign behavior of the lesion [17]. Histopathological characterization of the tumor could be obtained through TRUS-guided focused biopsies before surgery [9]. Preoperative needle aspiration biopsy was used in 10 patients in nine reported cases. The use of this technique helped to rule out malignancy in seven cases. It was though impossible to rule out malignancy in the 3 remaining patients [18]. These results can be explained by the predominant cystic nature of the lesion. Histologically, cystadenoma of the seminal vesicle is made of cysts, of varying number, size and shapes. These cystic lumens are surrounded by a fibrous or fibromuscular connective tissue [19]. A single layer of cuboidal epithelium lines the cystic spaces [20]. There is no standard surgical approach for these tumors because of their rarity. The only curative treatment is surgical resection, either by open or laparoscopic surgery. Although open surgery is the approach of choice, it is more dangerous than laparoscopic surgery since it predisposes to unavoidable great trauma, due to the deep position of the seminal vesicles. Open surgical techniques include transperineal, transvesical, paravesical, retrovesical and transcoccygeal approaches [2]. In 1998's report cases of seminal vesicle cystadenomas have been treated with radical cystoprostatovesiculectomy [21]. Transperitoneal laparoscopic vesiculectomy for seminal vesicle cystadenoma was recently increasingly performed. The oncological outcomes are wonderful and the recovery after surgery is relatively fast [22]. The robotic approach is an effective emerging technique that could be used for the treatment of seminal vesicle Tumors. Attention should be paid in case of large tumors, especially when located near the lateral prostatic vascular pedicle, since a risk of penile erectile dysfunction after surgery exists [9].

Conclusion

In our work, we report a case of a giant seminal vesicle cystadenoma in an 80 years-old patient. Benign primary tumors including cystadenomas are the rarest ones. Only about 22 cases of cystadenoma of the SV have been reported since 1944. The diagnosis is typically made on final pathology. The only curative treatment is surgical resection, either by open or laparoscopic surgery.

Data Availability

Not applicable.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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