Vol 3 Issue 1 ISSN 2581-3862

ScholarsReport
Open Access Peer Reviewed Journal

Cinical Case Report

Subject: Oncology

Urachal Adenocarcinoma: Clinical case

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ARTICLE INFO

Article History:
Received 28 May 2018
Accepted 24 June 2018
Available online 29 June 2018

Keywords: Uraco mass; Carcinoma of the urachus; Adenocarcinoma; Diagnosis; Treatment.

SUMMARY

Introduction:

Urachal cancer is rare in our environment and comprises less than 1% of all invasive bladder cancers, 62% are presented in the male gender and 50% correspond to those over 60 years of age. This cancer was first described by Hue and Jacquin in 1863.

Case report:

A 50-year-old male with positive smoking from 18 years of age (20 cigarettes/day), and umbilical hernia of 10 years of evolution. Repeated urinary tract infections with multiple treatments of 10 years of evolution, with exacerbation two-years ago. It refers to periumbilical pain and mucinuria, sometimes with macroscopic hematuria, denies umbilical secretion. The giant abdominopelvic cyst is diagnosed. Physical Exploration: abdomen without palpable masses. Laboratories: Blood Chemistry: glucose 150 mg/dl.

EGO:

Leukocytes 125; 40-45 erythrocytes plus pyuria, bacteria (+++), mucus (+).

CT:

Thin walls bladder, irregular edges, in hypogastrium: irregular image ill-defined edges towards the anterior wall of the bladder towards the upper heterogeneous third, with solid component adhered to the bladder wall, with vascularity, appreciating exophytic bladder tumor towards the bladder roof and right lateral wall, without adenopathies. Partial cystectomy + urachal resection and navel in block + pelvic lymphadenectomy were performed.

Discussion:

Our case did not present lymph nodes or metastases and in another study, they found that hematuria is related to cancer and fat infiltration, in the Retzius space, is related to a benign tumor. Mucosuria presented one of the main signs of this entity.

Citation: Suarez AG, Arredondo GP, Canto RB (2018) Urachal Adenocarcinoma. Clinical case. ScholReps 3(1).

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1. Introduction

Urachal cancer is rare in our environment and comprises less than 1% of all invasive bladder cancers, 62% are presented in the male gender and 50% correspond to those over 60 years of age. This cancer was first described by Hue and Jacquin in 1863.[1] The most common type is adenocarcinoma (80 to 90%) of the cases. This cancer is caused by changes in the columnar epithelium of the embryological remnant of the allantois that connects the umbilicus with the fetal bladder, the urachus. It´s treatment is surgical and has a recurrence of 15 to 41%, chemotherapy is reserved for recurrences or when surgery is not possible.[2]

2. Clinical case

A 50 year-old male patient with a history of positive smoking from 18 years of age (twenty cigarettes/day), cystoscopy. Umbilical hernia of 10 years of uncomplicated evolution, without treatment. Repeated urinary tract infections with multiple treatments of 10 years of evolution, with exacerbation two-years ago. It refers to periumbilical pain and mucinuria at the end of urination, sometimes with macroscopic hematuria. Denies umbilical secretion. Made diagnosis of giant abdominopelvic cyst of 10 days of evolution, with the presence of pain and periumbilical foreign body sensation. The renal US reports a complex cyst to the right anterolateral wall. Physical Examination: abdomen without palpable masses, umbilical hernia of 2 cm, without secretion from it. Laboratories: blood chemistry glucose 150 mg/dl. Urinalyses: cloudy, density 1.020, Ph 5.5, leukocytes 12.5; 40-45 erythrocytes plus pyuria, bacteria (+++), mucus (+). Uroculture > 100,000 Cfu (*Enterobacter aerogenes*); PSA 4.58 ng/ml. CT: Bladder thin walls (1 mm), irregular edges, in hypogastrium: irregular image ill-defined edges towards the anterior wall of the bladder towards the upper third of 114 x 66 x 90 mm, vol. 312 cc, heterogeneous, with solid component adhered to the bladder wall with posterior acoustic shadow, with vascularity, appreciating exophytic bladder tumor towards the bladder ceiling and right lateral wall of 88 x 86 x 49 mm, with contrast enhancement, with apparent gas inside, with infiltration; without adenopathies. (Figure 3, 2) Partial cystectomy + urachal resection and navel in block + pelvic lymphadenectomy was performed (Figure 3, 4). The transoperative reported with negative bladder rim edges, the closest to 19 cm. Postoperative complication of dehiscence towards the navel site.

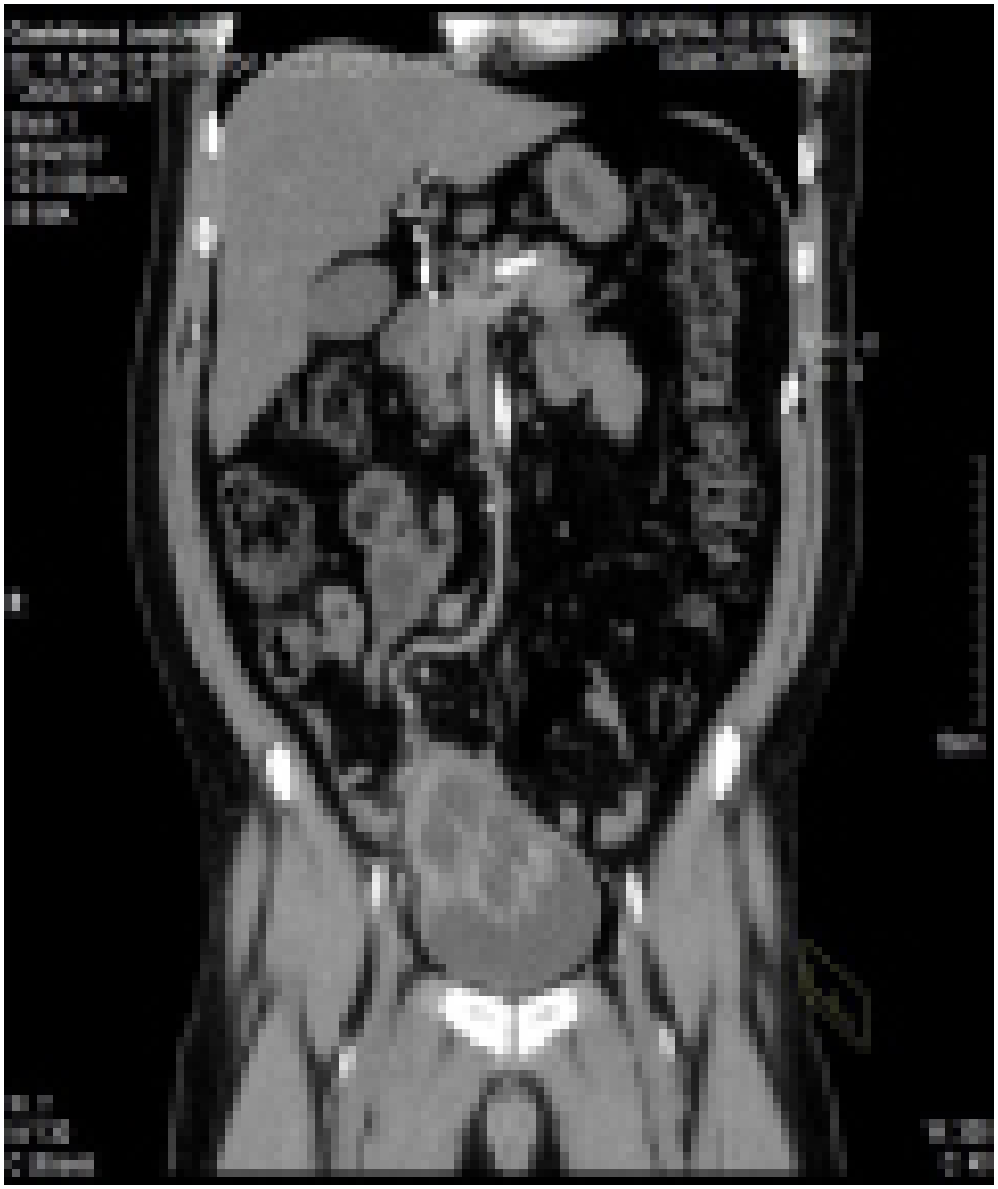

Figure 1: Tomography contrasted in arterial phase in coronal projection, where a cystic tumor is observed above the bladder, with reinforcement of the walls and its communication with the omphalomesenteric duct is identified.

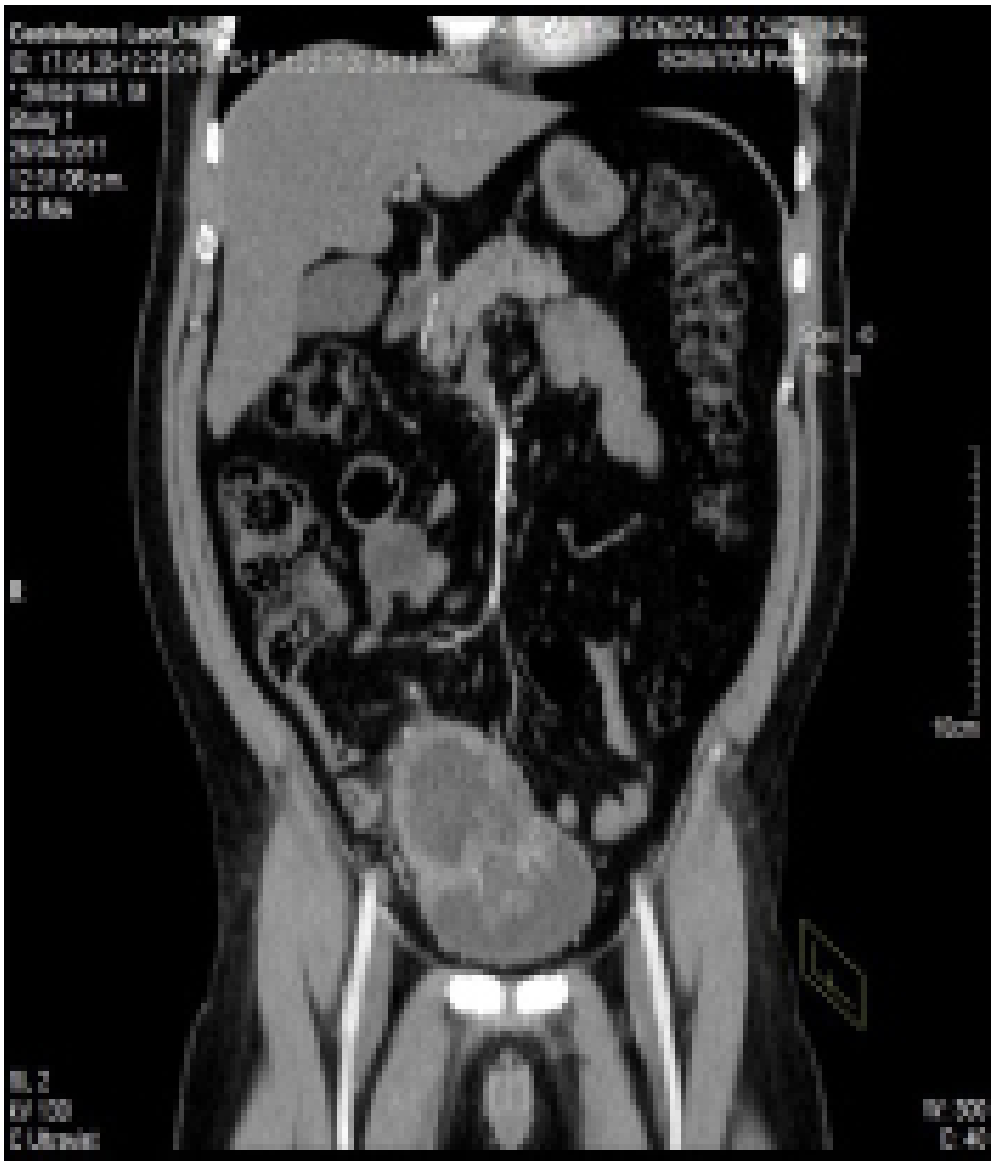

Figure 2: It is observed in the venous phase that the tumor still has reinforcement of its walls as in the arterial phase and retains its interface with the urinary bladder.

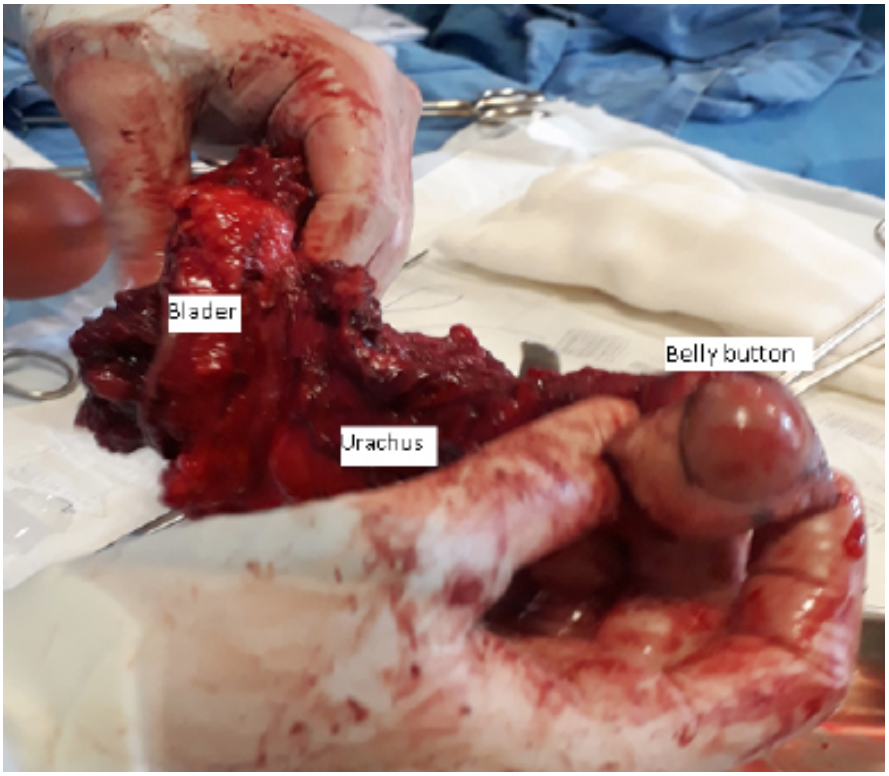

Figure 3: Surgical specimen showing the navel and the path of the urachus.

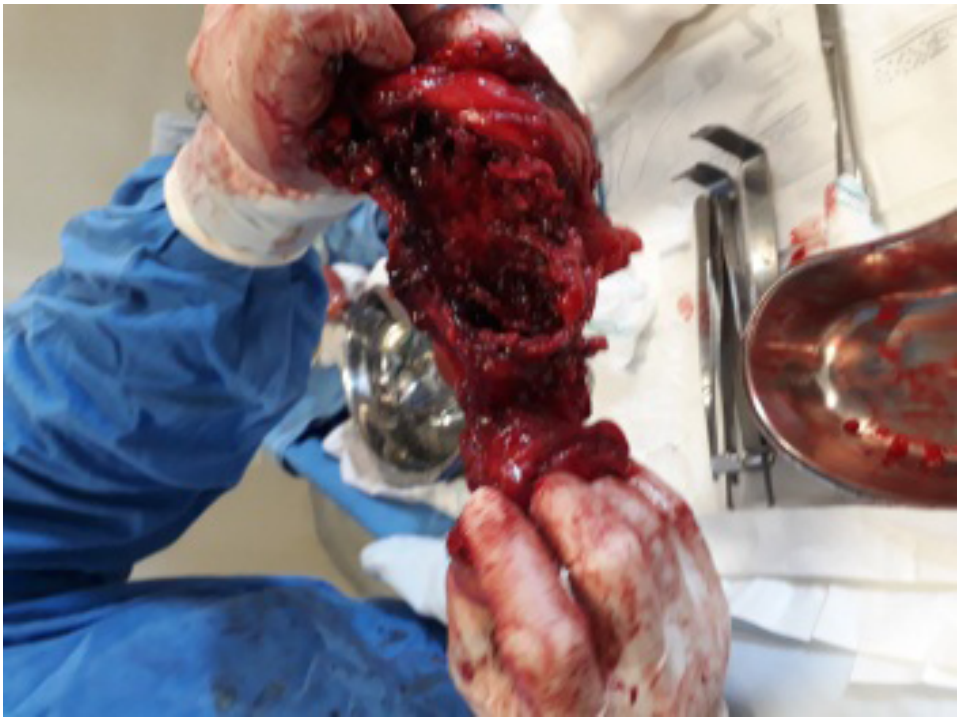

Figure 4: Block surgical piece.

3. Discussion

In a study by Duqun Ch, *et al.* [3] during 15 years, they analyzed 17 patients with urachal cancer and used the TNM system to predict the results, with an average age of 50 years-old equal to that of our patient and a male/female ratio of 10:7 of the which 23% presented nodes taken with metastases and their overall survival average was 57.6 months. Our case did not present ganglia taken or metastases. Other authors use Sheldon's international staging.[4] There are also other criteria for the classification of this entity such as the Anderson Cancer Center and the Mayo Clinic.[5]

The masses of the urachus can be malignant or benign and a study by Bi X, *et al.*, [6] found that hematuria is related to cancer and fatty infiltration in the Retzius space, is a related benign tumor. Our patient presented hematuria and mucosuria.

Urachal carcinoma should be distinguished from primary urothelial carcinoma because its treatment and prognosis are different and although biopsy is essential to decide the treatment modality, fine-tip aspiration biopsy is important for these cases if the radiographic findings are characteristics of urachal carcinoma.[7]

On the other hand, computed tomography scan and magnetic resonance are indispensable studies for the correct diagnosis and for preoperative tumor staging. In our patient, the tomography was of great support for our case.[8-10] It is known that the treatment of urachal cancer is surgical; However, it can now be performed by robot-assisted surgery with similar results and better patient comfort.[11]

In any case, the surgical treatment is a wide pelvic dissection that contains the navel, the tumor and the urachus with partial cystectomy, surgical margins free of tumor cells and the dissection of the lymphatic ganglia of the pelvis. [12]

With regard chemotherapy, Yu B, *et al.*, [13] used in advanced cancer three cycles (21 days, each) of gemcitabine and cisplatin plus S-1 (Capecitabine). gemcitabine, 1000 mg/m^2, days 1 and 8; cisplatin, 70 mg/m^2, day 2; and S-1, 50 mg bid, days 1-14), which was

effective, and facilitated surgical success.

Is the origin of adenomatous cells a metaplasia or is it a remnant of enteric cells? That problem is still under discussion and mutations having been found in KRAS, BRAF, GNAS and Her2 associated with urachal cancer. Although immunohistochemically markers such as CEA, 34βE12, Claudin-18 and RegI V have been found to be indicative for mucin-producing cancer, these fail when compared to clinical data. Likewise, little is known about the traditional serum markers for this cancer such as CEA, CA19-9, CA125 and CA724 that have been found elevated in urachal cancer (2/3, ½ and 1/3, respectively.)[14]

The mutational pattern for urachal cancer is very similar to colorectal urothelial cancer. However, the mutation characteristics of this cancer appear to be unique, suggesting that clinical decision making can´t be simply adopted from urothelial or colorectal carcinoma.[15]

Çiçek T, *et al.*, [16] reported a case of vesical diverticulum with urachal cancer in a 43-year-old woman with good results. Similarly, Bao, *et al.*, [17] report a case of primary adenocarcinoma of the urachus with relapse five years after surgery with pulmonary metastases.

Efthimiou I, *et al.*, [18] reported a case of a 58-year-old male with urachal cyst and mucosuria since childhood. After surgery he was diagnosed as an uraco mucoid adenocarcinoma.

Quan J, *et al.* [19] report two cases, the first as adenocarcinoma (mixed type) and adenocarcinoma of the mucinous urachus with good results where the recurrence in partial cystectomy is high, not in radical cystectomy, therefore, extensive resection of the tumor can be Healing in the majority of patients without metastasis.

In a study by Kim Kyong, *et al.*, [20] when staging patients, they think that Mayo staging may be more effective than Sheldon's and that tumor size of mucinous adenocarcinoma may also be a prognostic factor for cancer of the urachus.

Institutional support:

None

Acknowledgment

None

Declaration

The authors declares no funding assistance being used for this manuscript. The article is not published or under consideration for publication in any other journal.

Conflict of Interest

The author declares no conflict of interest.

Authorship (contribution or attribution)

All authors have read and equally contributed to this article.

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