



Functional medicine

## Urethral carcinoma: A compilation of case studies and research findings

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## ABSTRACT

There are three major recognized histological types for primary urethral carcinoma (PUC). These include transitional cell carcinoma (55%), squamous cell carcinoma (21.5%), and adenocarcinoma (16.4%). However, primary urethral carcinoma still only accounts for approximately less than 1% of all bladder cancers. Current management includes surgery alone or surgery with adjunctive radiotherapy and chemotherapy. Current research suggests that in those cases managed with only surgery, the five-year disease-free survival is only 20–30%; as additional treatment with radiotherapy and chemotherapy is new recommendation, there is no published statistical data to suggest outcomes, only current clinical observation.

## Introduction

There are three major recognized histological types for primary urethral carcinoma (PUC). These include transitional cell carcinoma (55%), squamous cell carcinoma (21.5%), and adenocarcinoma (16.4%). However, primary urethral carcinoma still only accounts for approximately less than 1% of all bladder cancers. Current management includes surgery alone or surgery with adjunctive radiotherapy and chemotherapy. Current research suggests that in those cases managed with only surgery, the five-year disease-free survival is only 20–30%; as additional treatment with radiotherapy and chemotherapy is new recommendation, there is no published statistical data to suggest outcomes, only current clinical observation.

## Case report

SR is a 72-year-old Caucasian female who presented with complaints of vaginal spotting and discomfort when urinating and wiping that had been present for multiple months before presenting for evaluation.

Initial evaluation was performed by her gynecologist; whom subsequently biopsied the mass and sent it for pathology. Pathology showed: Squamous mucosa, atypical squamous cells and chronic inflammation. The size of the mass was approximately 1.5 cm in size with a hardened consistency. Patient was given the diagnosis of urethral prolapse. Her treatment regimen included estrogen vaginal cream, which continues to be the current gold standard of therapy after tissue biopsy is obtained. Patient was instructed to apply a suitable amount to the external urethral meatus weekly for approximately 3 months and return for a follow up visit. Patient returned 3 months later with no resolution of symptoms.

Patient was sent to the urogynecologist for an evaluation and second opinion. The decision was made to proceed with an excisional procedure in the operating room after no resolution in the size and symptoms of the mass after being treated with estrogen vaginal cream for 3 months. The results of the patient's excisional procedure returned as adenocarcinoma of the urethra.

The patient was then sent to the University of Florida urologic oncology clinic for evaluation and consultation concerning urethral adenocarcinoma. The University of Florida repeated the biopsy and it

*Abbreviations:* HPV, human papilloma virus; PUC, Primary urethra carcinoma; RT, radiation therapy; SEER, Surveillance Epidemiology and End Results; SCC, squamous cell carcinoma.

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confirmed the diagnosis as adenocarcinoma as well. Patient tolerated this procedure well and without complication.

The patient decided to undergo radiation therapy and palliative care after given further surgical options by the urologic oncology team; (Radical cystectomy, urethrectomy and pelvic radiation). She has done very well with the treatment regimen given to her on a weekly basis for 6 months. The patient tolerated radiation therapy well and experienced only grade 2 desquamation in the three weeks following treatment, without any GI or urinary toxicities. She will continue to follow-up with my office as well as 3-month follow-ups with the urologic oncology center at the University of Florida.

## Discussion

The types of carcinoma include urothelial carcinoma, squamous cell carcinoma, and adenocarcinoma. According to author, primary urethral carcinoma (PUC) is a rare disease representing <1% of genitourinary cancers.<sup>1</sup> The author further contended that the sites and histology of urethral carcinoma vary by gender, race and anatomical location.<sup>1</sup>

Primary urethra cancer is very rare. After reviewing the Surveillance, Epidemiology, and End Results (SEER) from 1973 to 2002 for primary urethral carcinoma, the author reported an annual incidence rate of 1.5 million for women in the Unites States.<sup>1</sup> Because of its rarity, there is no consistency on its management. However, the previous authors reported that for PUC, the major histological types were transitional cell carcinoma (55%), squamous cell carcinoma (21.5%), and adenocarcinoma (16.4%).<sup>2</sup>

The previously mentioned research reported that managed with surgery alone, five-year disease-free survival is only 20–30%; management with radiotherapy and chemotherapy has been advocated in combination with surgery to improve treatment. Urethra diverticula are localized outpouchings of the urethral mucosa and most frequently occur along the distal two-thirds of the urethra.<sup>2</sup> Since urethra diverticula were first reported, an increasing incidence has been reported, most likely due to more awareness of the disease and an increased use of imaging.<sup>2</sup>

The risk factors for PUC were reported by the authors.<sup>3</sup> The aforementioned research reported the role of human papilloma virus (HPV) as a risk factor has been documented in several studies, particularly in

squamous cell cancers. The risk factors for PUC vary. According to the authors; squamous cell carcinoma is most common among both genders, but adenocarcinoma is noted in 15–35% of cases among women.<sup>3</sup>

According to the aforementioned study, there have been no controlled studies to compare the efficacy of surgery and radiation; however, radiotherapy is reported to be a suitable treatment for localized metastatic and localized advanced urethral carcinoma, especially in patients with urothelial carcinoma and squamous cell carcinoma. In 2006, the authors performed a resection of the urinary bladder, urethra, vagina, and uterus that resulted in complete resolution for a case of urethral adenocarcinoma.<sup>4</sup>

## Conclusion

Primary urethra cancer is very rare. The sites and histology of urethral carcinomas are different for males and females and vary by body locations. However, the research reported that when managed with surgery alone, 5 year survival is only 20–30%, and management with radiotherapy and chemotherapy has been advocated in combination with surgery to improve treatment.<sup>5</sup> This disease continues to be controversial and more research is necessary in the future.

## Declaration of competing interest

Dr. Williams is a surgical consultant of Coloplast Urology.

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