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ORIGINAL RESEARCH

To evaluate the oncologic prognoses of people with nonurothelial bladder cancer

[1]Dr SS Malik, [2]Dr Sandeep Malik

[1]HOD, [2]Consultant, Department of Surgery, Malik Hospital Hansi Hisar, Haryana, India

Correspondence:
Dr Sandeep Malik
Consultant, Department of Surgery, Malik Hospital Hansi Hisar, Haryana, India

ABSTRACT

Aim: The aim of the present study to evaluate the oncologic prognoses of people with nonurothelial bladder cancer.

Material and methods: This prospective observational study was carried out after being given the all-clear by the protocol review committee and the institutional ethics committee. Twenty-two adults were included in the study because they all had histologically confirmed NUBCs.

Results: Twenty-two people who had NUBCs participated in this study. Adenocarcinoma was found in 12 of them, whereas Squamous Cell Carcinoma was in 5, small cell carcinoma in 3, and inflammatory myofibroblastic cancer in 2. The patients' median age at presentation was 53.55 years, and 19 of them (86.36%) presented with hematuria as their primary complaint. Two people reported soreness in the lower urinary tract. The majority of patients were diagnosed at T3, and just one had advanced cancer.

Conclusion: Rare uveo-uveal biliary cancer (NUBC) exhibits several histological variants. We conclude that NUBC is a very aggressive disease with a poor prognosis since it is often diagnosed late in the course of the disease. The courses of therapy vary. To improve long-term survival rates, we need a concerted effort from institutions all around the world to shed light on the biology of these cancers and evaluate current treatment methods.

Keywords: non-urothelial bladder cancer, radical cystectomy, chemotherapy

INTRODUCTION

About 90–95% of all incidences of bladder cancer in the United States are due to pure urothelial cell carcinoma (UCC), which accounts for over 70,000 annual cancer diagnoses. [1-3]Mixed urothelial and nonurothelial histologies or pure nonurothelial histologies make up the remaining 5-10% of bladder cancers; these have a worse prognosis than urothelial cell bladder carcinoma.[4] Roughly 2% of bladder tumours are adenocarcinomas. Nonurothelial primary bladder cancers include squamous cell carcinoma, carcinosarcoma, primary lymphoma, and sarcoma. Small cell carcinoma of the urinary bladder makes up just 0.3% to 0.7% of all bladder tumours. Depending on the specific circumstances, high-grade urothelial carcinomas may show squamous, glandular, neuroendocrine, or sarcomatous histologic differentiation. A broad spectrum of aggressiveness and risk characterises the clinical history of bladder cancer. There is a low mortality rate associated with low-grade, superficial bladder cancers; however, high-grade, non-muscle-invasive tumours frequently progress, and muscle-invasive cancers are often fatal.[3] Eighty percent to ninety percent of patients with bladder cancer present with asymptomatic, massive hematuria. Most physical exams have

unremarkable results. Cystoscopy, cytology, and, if necessary, biopsy are the most important diagnostic tools. 55%-60% of patients present with low-grade, noninvasive illness, and these cases are typically managed conservatively with transurethral resection of bladder tumour (TURBT) and frequent cystoscopy. The recurrence rate can also be lowered by strategically administering intravenous medications. Half of the remaining patients have muscle-invasive disease at this stage and require radical cystectomy or trimodality therapy (i.e, TURBT followed by concurrent radiation therapy and systemic chemotherapy). To treat carcinoma in situ (CIS), a catheter is inserted into the bladder and chemotherapeutic or immunotherapeutic agents are injected directly into the bladder, most commonly immunotherapy with the bacillus Calmette-Guérin (BCG) vaccine. The 20% of patients whose cancer has advanced to the muscle lining the bladder will not benefit from intravesical therapies; these patients will need either a cystectomy or a combination of radiation therapy and chemotherapy. The bladder, a muscle sac that stores urine and is placed in the pelvis behind the pubis symphysis, is an extraperitoneal organ. The destroyed urachus is represented by the median umbilical ligament, a fibrous cord connected to the umbilicus at the dome of the bladder (allantois). Urine travels via the ureters from the kidneys to the bladder via the trigone, which is located at an oblique, posterosuperior angle to the bladder (the area between the interureteric ridge and the bladder neck). The intravesical ureteral orifices, which are roughly 2-3 cm apart, define the superolateral edges of the trigone. An internal sphincter, a radical cystectomy involves the removal of the bladder neck. [4,5]

Due to a lack of information, clinicians often classify all pure nonurothelial and mixed histologies as "nonurothelial," even though they are clinically and physiologically unique. Having a more complete understanding of relative survival patterns across pure nonurothelial histologies is important for improved patient counselling and clinical decision-making prior to cystectomy. Because nonurothelial bladder cancer is so uncommon, many institutional studies have focused on a single histology at a time, making it impossible to place individual histologies within the context of the broader spectrum of bladder cancer. However, only a small number of nonurothelial histologies have been studied using these larger administrative databases. [5-7] The cancer's stage is used to plan the treatment. Surgery, radiation therapy, chemotherapy, and/or immunotherapy may all be part of the plan. Several surgical options exist, including transurethral resection, bladder removal (in part or in whole), and urinary diversion. In the United States, Canada, and Europe, the average survival rate after five years is 77%, 75%, and 68%, respectively. There were around 1.6 million people affected by bladder cancer in 2017, with 549,000 new cases and 200,000 deaths. Onset often occurs between the ages of 65 and 84. The prevalence of the disease is higher in men than in females. There were 15, 13, and 12 new instances of bladder cancer for per 100,000 people in Southern and Western Europe, North America, and the Caribbean, respectively, in 2017. The death toll from bladder cancer was highest in northern Africa and western Asia, and then in southern Europe. [8] This study's overarching objective is to evaluate the oncologic outlook for patients diagnosed with nonurothelial bladder cancer.

MATERIAL AND METHODS

This prospective observational study was carried out after being given the all-clear by the protocol review committee and the institutional ethics committee. Twenty-two adults (ranging in age from 19 to 79) were included in the study because they all had histologically confirmed NUBCs. Cancer patients who were not willing to be handled at our cancer centre were also not included in the study, as were those whose tumours were located anywhere else in the urinary system outside the bladder. Average patient follow-up was one year.

STATISTICAL ANALYSIS

The statistical study was performed using IBM SPSS Statistics for Windows, Version25.0.

RESULTS

Twenty-two people who had NUBCs participated in this study. Adenocarcinoma was found in 12 of them, whereas Squamous Cell Carcinoma was in 5, small cell carcinoma in 3, and inflammatory myofibroblastic cancer in 2. The patients' median age at presentation was 53.55 years, and 19 of them (86.36%) presented with hematuria as their primary complaint. Two people reported soreness in the lower urinary tract. The majority of patients were diagnosed at T3, and just one had advanced cancer (Table 1).

Table1: Clinical disease staging

Parameter	Stages	Adenocarcinoma, 12(54.54%)	SCC, 5(22.73%)	Small cell carcinoma, 3(13.64%)	IMT, 2(9.09%)
cT	T2	4	0	0	0
	T3	7	5	0	2
	T4	1	-	3	0
cN	N0	10	5	2	0
	N1	2	-	1	2
cM	M0	10	5	3	2
	M1	2	0	0	0

SCC, squamous cell carcinoma; IMT, inflammatory myofibroblastic tumor; cT, clinical primary tumor; cN, clinical lymph nodes; cM,clinical metastasis; T2, tumor invades detrusor muscle; T3, tumor invades perivesical tissue; T4, tumor invades any of the following:prostatestroma,seminalvesicles,uterus,vagina,pelvicwall,abdominalwall;N0,noregionallymphnodemetastasis;N1,metastasisin a single lymph node in the true pelvis (hypogastric, obturator, external iliac, or presacral); M0, no distant metastasis; M1, distantmetastases

Table 2: The pathological staging according to tumor histologies

Parameter	Stages	Adenocarcinoma, 12(54.54%)	SCC, 5(22.73%)	Smallcellcarcinoma, 3(13.64%)	IMT, 2(9.09%)
pT	Tx	2	2	3	0
	T1	-	-	0	0
	T2	6	1	0	2
	T3	2	1	0	0
	T4	2	1	0	0
pN	Nx	2	2	3	0
	No	8	2	0	2
	N1	2	1	0	0
	N2	0	0	0	0

The treatment methods used on these individuals are listed in Table 3. It suggests that patients diagnosed with adenocarcinoma at an earlier stage may be candidates for curative surgical treatment. Depending on the stage of the SCC, only one patient in three may have a radical cystectomy with adjuvant radiotherapy; the other two may only get palliative treatment. At the outset, T4 was identified as the predominant subtype of small cell cancer, and chemotherapy was the sole treatment offered to patients.

Table 3: Treatment modalities with respect to histology SCC, IMT, TURBT

Parameter	Stages	Adenocarcinoma, 12(54.54%)	SCC, 5(22.73%)	Smallcellcarcinoma, 3(13.64%)	IMT, 2(9.09%)
Chemotherapy	None	8	2	0	2
	Adjuvant	2	0	0	0

	Definitive	0	0		0
	Palliative	2	3	3	0
Radiotherapy	None	10	3	3	2
	Adjuvant	0	2	0	0
	Radical	0	0	0	0
	Palliative	2	0	0	0
Surgical procedure	TURBT	2	3	3	0
	Partialcystectomy	8	0	0	2
	Radicalcystectomy	2	2	0	0

The average period of follow-up was one year. During this time, 13 individuals were identified with cancer recurrence or progression, with the majority, 3 of whom had illness in numerous locations. Furthermore, three of these individuals died as a result of disease progression, whereas the other three died as a result of widespread illness and comorbidities. The overall median survival was 56.74 months, with a mean DFS of 61.58 months.

DISCUSSION

Because of its aggressive nature, the clinical results of patients with NUBC rely heavily on their prompt identification and treatment.[9] Worldwide, SCC accounts for 3-5% of all BCs and is the most common NUBC. Infection with Schistosoma haematobium, a parasite that persists in the blood, is thought to play a role in its prevalence, which is particularly high in Egypt and other African countries.[10,11] Radical cystectomy is the preferred treatment for localised SCC because the benefits of radiation are debatable and the effects of standard chemotherapy are minimal due to disease chemo resistance.[12] Nearly 54.54 percent of bladder cancers are adenocarcinomas, and a diagnosis of primary adenocarcinoma of the bladder requires the exclusion of other possible original tumour sites, such as the prostate or rectum. [13, 14] Outside of endemic areas, adenocarcinoma is the most common type of NUBC. According to our findings, adenocarcinoma is the most common cause of NUBC. For vesical adenocarcinomas that can be removed through surgery, the standard treatment is radiation cystectomy and pelvic node dissection. In comparison, small cell carcinoma accounts for only about 22.73 percent of all cases. For the most part, this occurs between the ages of 70 and 80. Patients with locally advanced small cell carcinoma should undergo radical cystectomy or multimodal therapy consisting of surgery, chemoradiation, and targeted molecular therapies. The only time palliative chemotherapy is administered is for terminal illnesses.[15,16] Its aggressive nature and extreme rarity make for a bleak prognosis.[17] Our study's 22 participants all had locally advanced unresectable disease at the outset and were treated with palliative care, but all succumbed to their illnesses within 8-11 months of follow-up.

The rare disease inflammatory myofibroblastic tumour has now been identified in two people. It is a rare kind of bladder NUBC that may progress to cancer.[18] Cystectomy, radiation therapy, and transurethral resection are all components of the treatment plan. Our 37-year-old patient had been in for follow-up care for the previous year after undergoing a partial cystectomy. The overall survival rates at three and five years for those with bladder adenocarcinoma were 68.18 and 31.82 percent, respectively, according to this study. Survival rates at three years for SCC were 44.8% and for adenocarcinoma they were 58.7%.[19] Five-year survival rates for SCC were 37% and 58% for adenocarcinoma, according to a different study. [18] Patients with advanced disease stage and a smaller sample size accounted for the variation in 5-year OS for adenocarcinoma compared to previously reported data.

The median survival period for patients with small cell carcinoma is 10–20 months, and the 5-year OS is 5-20%.[20] We are unable to draw any conclusions on the overall survival of patients with SCC and small cell carcinoma due to the small sample size of our data. There needs to be more standardised and collaborative research to move this field forward. Our research also demonstrates the need for technology to detect these cancers at an early stage, when they are most amenable to treatment.

CONCLUSION

Rare uveo-uveal biliary cancer (NUBC) exhibits several histological variants. We conclude that NUBC is a very aggressive disease with a poor prognosis since it is often diagnosed late in the course of the disease. The courses of therapy vary. To improve long-term survival rates, we need a concerted effort from institutions all around the world to shed light on the biology of these cancers and evaluate current treatment methods.

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