

Changing trend of transitional cell carcinoma of the bladder in Ile-Ife, South Western Nigeria

AA Salako, TA Badmus, IA Akinbola, MC Igbokwe,
RA David, A Laoye, RN Babalola and CI Onyeze

Urology Unit, Department of Surgery, Obafemi Awolowo University
Teaching Hospitals Complex, Ile Ife, Nigeria.

Abstract

Background: Recent studies from other parts of the world have reported a rising pattern of transitional cell carcinoma (TCC) amongst other histologic variants of bladder cancer.

Objective: To report the changing trend of TCC in our practice at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife, Nigeria.

Materials and methods: A retrospective review of clinical and pathological records of all bladder cancer cases managed between January 2006 and December 2015 in our hospital was done. Cases of TCC were identified, extracted and analyzed.

Results: A total of 38 histologically confirmed bladder cancers were seen during the study period. TCC accounted for 61% (23), Squamous cell carcinoma 16% (6), Adenocarcinoma 13% (5), while secondary bladder tumour from prostate cancer accounted for 10% (4).

Of the patients with TCC, mean age was 60 years \pm 13.4SD while the male to female ratio was 4:1. Ninety-five percent of them presented with haematuria. Risk factors identified in 57% of patients included smoking (43%) and industrial exposure to carcinogens (14%). Only 26% (6) of the TCC cases were non-muscle invasive while the remaining 74% (17) were muscle invasive. Eighty-seven percent (20) of the patients were treated while 13% (3) defaulted further treatment in our hospital after diagnosis. Among those treated in our centre, 30% (7) have had complete treatment with surgery and or chemotherapy and are presently on follow-up. Two patients (9%) have died, while 6 (26%) are still on treatment with intravesical chemotherapy. The remaining 8 patients (35%) have been lost to follow-up.

Conclusion: TCC is rising in proportion amongst other types of bladder cancer. It is the commonest bladder cancer seen associated with cigarette smoking and industrial exposure to carcinogens.

Keywords: Transitional cell carcinoma (TCC), Changing trend, Ile-Ife, Nigeria.

Correspondence: Dr. I.A. Akinbola, Urology Unit, Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria. E-mail: abelala2004@yahoo.com

Résumé

Contexte : Des études récentes dans d'autres parties du monde ont révélé une tendance à la hausse du carcinome à cellules transitionnelles (CCT) parmi d'autres variantes histologiques du cancer de la vessie.

Objectif : Pour rendre compte de la tendance changeante du CCT dans notre pratique au Complexe Hospitalier d'Enseignement Universitaire de l'Université Obafemi Awolowo (OAUTHC), Ile-Ife, Nigéria.

Matériels et méthodes : Un examen rétrospectif des dossiers cliniques et pathologiques de tous les cas de cancer de la vessie traités entre janvier 2006 et décembre 2015 dans notre hôpital a été effectué. Les cas de CCT ont été identifiés, extraits et analysés.

Résultats : Un total de 38 cancers de la vessie histologiquement confirmés a été observé au cours de la période de l'étude. Le CCT représentait 61% (23), le carcinome épidermoïde 16% (6), l'adénocarcinome 13% (5), tandis que les tumeurs de la vessie secondaires du cancer de la prostate représentaient 10% (4).

Parmi les patients atteints de CCT, l'âge moyen était de 60 ans \pm 13,4 ans tandis que le rapport hommes-femmes était de 4 : 1. Quatre-vingt-quinze pour cent d'entre eux ont présenté une hématurie. Des facteurs de risque ont été identifiés chez 57% des patients et incluent le tabagisme (43%) et l'exposition industrielle aux carcinogènes (14%). Seuls 26% (6) des cas de CCT étaient non invasifs sur le muscle, alors que les 74% (17) restants étaient invasifs. Quatre-vingt-sept pour cent (20) des patients ont été traités, tandis que 13% (3) ont abandonné le traitement dans notre hôpital après le diagnostic. Parmi les personnes traitées dans notre centre, 30% (7) ont subi un traitement complet par chirurgie ou chimiothérapie et font actuellement l'objet d'un suivi. Deux patients (9%) sont décédés, tandis que 6 (26%) suivent toujours un traitement de chimiothérapie intra-vésicale. Les 8 patients restants (35%) ont été perdus de vue.

Conclusion : Le CCT augmente proportionnellement aux autres types de cancer de la vessie. Il s'agit du cancer de la vessie le plus courant associé au tabagisme et à l'exposition industrielle aux carcinogènes.

Mots-clés : Carcinome à cellules transitionnelles (CCT), Évolution de la tendance, Ile-Ife, Nigeria.

Introduction

Carcinoma of the bladder is the second commonest urological malignancy following prostate cancer in Nigeria [1,2]. It accounts for 6.2% of all cancer cases and the fourth most common in men [3]. Worldwide, transitional cell carcinoma (TCC) is the predominantly found histological type of bladder cancer most especially in the developed world where urbanization and industrialization have been postulated to play a major role [3]. Squamous cell carcinoma

patients, bladder cancer histologic type, risk factors, ultrasound and cystoscopic findings, pathologic extent of invasion, type of treatment offered, and outcome.

Results

During the study period, there were 38 histologically confirmed bladder cancer cases. Transitional cell carcinoma accounted for 61% (23), squamous cell carcinoma 16% (6), adenocarcinoma 13% (5), while

Percentage Distribution of Bladder Cancer

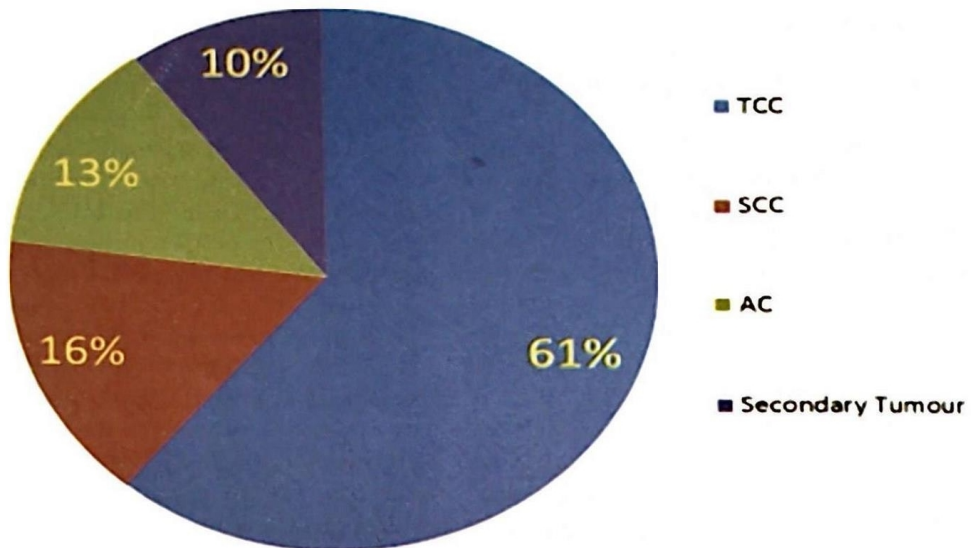


Fig. 1

(SCC) of the bladder on the other hand was found to be commoner in the developing world, in areas exposed to schistosomiasis [1,4,5]. Earlier in the twenty first century, studies found SCC to be the commonest histological type of bladder cancer, however there appears to be a changing trend in recent times with a rising incidence of TCC of the bladder [2,6,7].

This report aims to show the changing pattern of bladder cancer in a tertiary center in South-west Nigeria.

Materials and method

A retrospective review of bladder cancer cases managed between Jan 2006 and Dec 2015 at Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife was done. Information extracted from clinical, pathological and cancer registry records and subsequently analyzed using Microsoft Excel 2016 included the demographic characteristic of the

secondary bladder tumour from prostate cancer accounted for 10% (4). The mean age of the patients was 60 ± 13.4 SD with a range of 39-85 years. The male to female ratio was 4:1. Civil service accounted for 43% (10), 13% (3) patients were paint factory workers, other occupation are as shown in the Table 1. Ninety-five percent (22) of the patients presented with haematuria, 52% (12) with irritative lower tract symptoms, 21% (4) with fever, 36% (8) with weight loss, while 30% (7) had palpable abdominal mass at presentation. Risk factors identified in 57% (13) of all the patients with TCC included smoking in 43% (10), while 14% (3) were paint factory workers. Only 26% (6) of TCC were non-muscle invasive while the remaining 74% (17) were muscle invasive. Eighty-seven (20) of the patients with TCC were treated while 13% (3) defaulted further treatment in our hospital after diagnosis. Among those treated in our centre, 30% (7) have had complete treatment with surgery and or chemotherapy and are presently

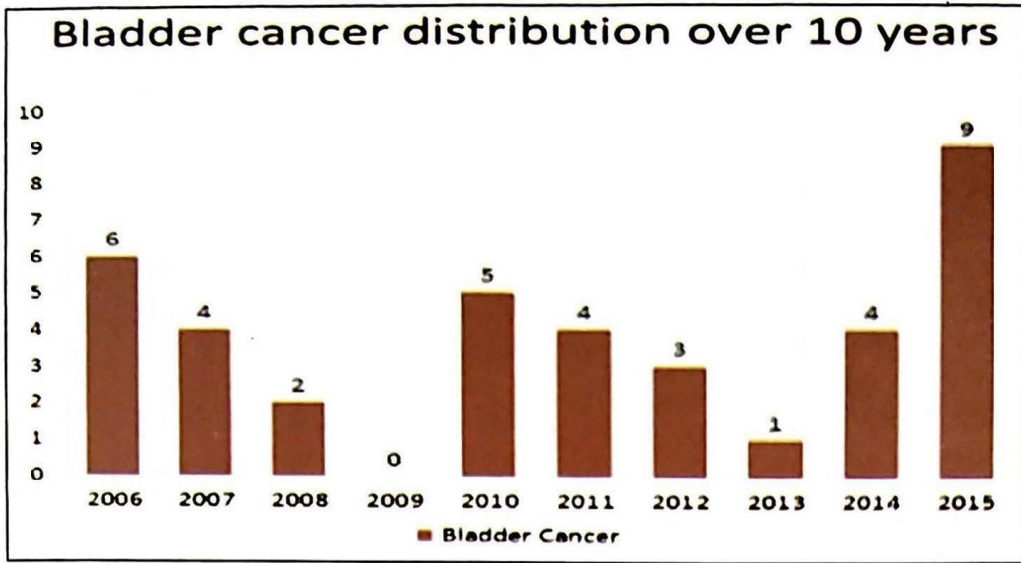


Fig. 2

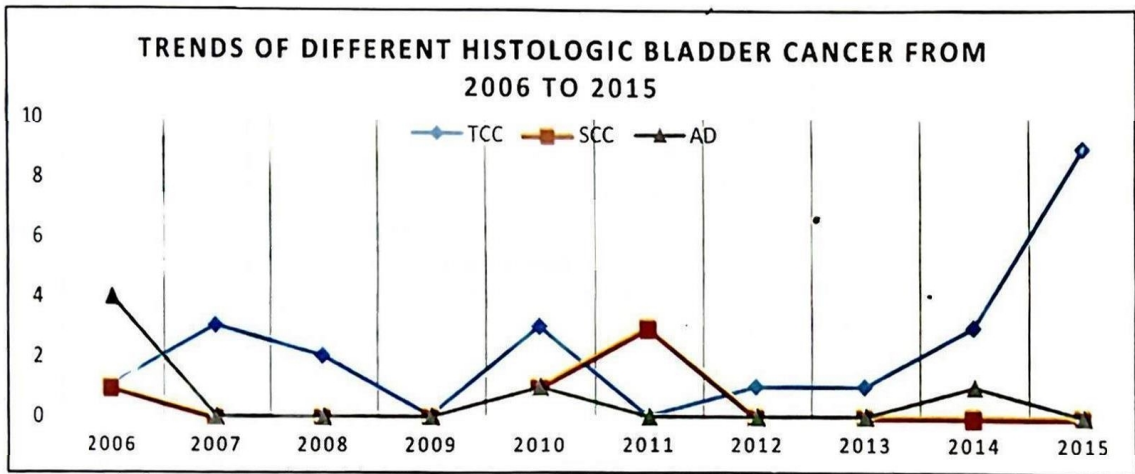


Fig. 3

Table 1:

Occupation	
Occupation	n(%)
Haematuria	22(95)
Irritative LUTS	12(52)
Fever	4(21)
Weight loss	8(36)
Palpable suprapubic mass	7(30)

Table 2:

Presentation	
Presentation	n(%)
Civil Service	10(43)
Paint factory work	3(13)
Trading	4(18)
Driving	3(13)
Farming	3(13)

on follow-up. Two patients (9%) died, while 6 (26%) are still on treatment with intravesical chemotherapy. The remaining 8 patients (35%) have been lost to follow-up.

Table 3:

Outcome	
- Alive and on follow-up	7 (30%)
- Still on treatment	6 (26%)
- Died	2 (9%)
- Defaulted	8 (35%)

Discussion:

There were three peak incidence of bladder cancer observed during the study duration, with the highest being in 2015. Adenocarcinoma and SCC respectively were majorly responsible for the two earlier peaks while TCC was not only responsible for the peak in 2015 but the sole histologic type seen throughout the year. Thus, our study has shown that TCC is currently on the increase as compared to other histologic types of bladder cancer.

TCC accounted for 61% of all bladder cancer cases in this study. Anunobi *et al* [8] in Lagos and Goonewardena *et al* [9] in Sri Lanka respectively reported that TCC accounted for 61% and 93.4% of all bladder cases in their studies. Similar observations on TCC has been documented in some other parts of Nigeria, as well as China, and in most of the series it has been attributed to environmental exposure to carcinogens from smoking, as well as increasing industrialization and urbanization [10-12]. In fact, similar surge in TCC is also being experienced in some schistosomiasis endemic regions where SCC used to be the most predominant bladder cancer [13]. This has been linked to increasing smoking habit, and growing industrialization and urbanization.

The mean age in our study was 60±13.4SD. Similarly, Anunobi *et al* [8] in their study done in Lagos, Nigeria, found a mean age of 59 years, while Lam KY *et al* found a mean age of 69 years in their study done among Chinese [11]. Hence, these are in

tandem with the fact that the incidence of TCC is higher among older people due to latent period of exposure to carcinogen [12,14].

We found a male preponderance of TCC with sex ratio of 4:1 in our study. A male-female ratio of 5:1 had been reported in Lagos, Nigeria, while a study in Sri Lanka also showed male preponderance with a sex ratio of 6:1. Therefore, similarity in all these findings may be suggesting sex-linked etiological factors [9,15,16]. In these regions, cigarette smoking is commoner among men than women [17]. Also, many of the industrial workers are males as many females may be made full-time housewives and therefore not be permitted to work [18]. In this study, smoking accounted for 43% of identified risk factors. El-Mawla *et al* [16] in Egypt and Kunze *et al* [19] in Germany also found smoking, which accounted for over 50% of cases, as the single most common risk factor in their studies.

Thirteen percent (13%) of patients with bladder cancer were paint factory workers, hence they could have been exposed to carcinogens in the paint [20,21]. Similar studies in literature have coated different relative risks for paint exposure as a risk factor for TCC of the bladder [22,23].

The most common presentation was haematuria found in 95% (22) of the TCC patients in this study. Similarly, haematuria was the presenting symptom of urothelial malignancy in 90% of cases in Sri Lanka [9,24]. Similar finding has been documented in other studies [24-26]. This means haematuria as a predominant presentation of TCC of the bladder has no racial or regional preference. In this present series, the finding of predominantly muscle-invasive carcinoma (74% Vs 26%) of the bladder was due to late presentation which is usually the pattern in developing countries. About half of all bladder cancers in Sri Lanka were found to be muscle invasive [25]. Similar results have been documented in many developing countries [16,27]. In contrast, only approximately 20% of newly diagnosed bladder cancers in developed countries have muscle invasion at initial presentation [25]. This difference could be attributed to the established screening programmes, early presentation, early diagnosis, and prompt intervention which are known with developed nations.

Intravesical immuno- and chemotherapy, surgery, and systemic chemotherapy are all critical elements in our management of patients with TCC of the bladder. Majority of the patients presented with advanced and inoperable tumours. Hence, it is needful to state that 87% of the patients accepted treatment of which 52% had intravesical and systemic

chemotherapy with 30% of them had complete treatment and are being followed up in our outpatient clinic with regular abdominopelvic ultrasound scan coupled with surveillance cystoscopy. Twenty-six percent of the patients are still presently on treatment. One of the 2 patients who had TURBT and one of the 2 patients who had radical cystectomy died during the course of follow-up as a result of medical conditions not related to surgery. Careful selection of patients for specific treatment option is of paramount importance in a low resource centre like ours whereby patients also present late with advanced tumours.

Conclusion

TCC is rising in proportion amongst other types of bladder cancer. It is the commonest bladder cancer seen associated with cigarette smoking and industrial exposure to carcinogens. The cessation of smoking and primary prevention need to be emphasized.

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