Platinum Priority – Urothelial Cancer

Editorial by J. Alfred Witjes on pp. 155–157 of this issue

Comparative Outcomes of Primary, Recurrent, and Progressive High-risk Non–muscle-invasive Bladder Cancer

Francis Thomas\textsuperscript{a,1}, Aidan P. Noon\textsuperscript{a,1}, Naomi Rubin\textsuperscript{a}, John R. Goepel\textsuperscript{b}, James W.F. Catto\textsuperscript{a,∗}

\textsuperscript{a}The Academic Urology Unit and Institute for Cancer Studies, University of Sheffield, Sheffield, UK; \textsuperscript{b}Department of Pathology, Royal Hallamshire Hospital, Sheffield, UK

Article info

Article history:
Accepted August 28, 2012
Published online ahead of print on September 5, 2012

Keywords:
Bladder cancer
High-risk
CIS
Outcome
Prognosis

Abstract

Background: The treatment of high-risk non–muscle-invasive bladder cancer (BCa) is problematic given the variable natural history of the disease. Few reports have compared outcomes for primary high-risk tumours with those that develop following previous BCas (relapses). The latter represent a self-selected cohort, having failed previous treatments.

Objective: To compare outcomes in patients with primary, progressive, and recurrent high-risk non–muscle-invasive BCa.

Design, setting, and participants: We identified all patients with primary and relapsing high-risk BCa tumours at our institution since 1994. Relapses were divided into progressive (previous low- or intermediate-risk disease) and recurrent (previous high-risk disease) cancers.

Outcome measurements and statistical analysis: Relationships with outcome analysed using multivariable Cox regression and log-rank analysis.

Results and limitations: We identified 699 primary, 110 progressive, and 494 recurrent high-risk BCa tumours in 809 patients (average follow-up: 59 mo [interquartile range: 6–190]). Muscle invasion occurred most commonly in recurrent (23%) tumours, when compared to progressive (20%) and primary (14.6%) cohorts (log rank \(p < 0.001\)). Disease-specific mortality (DSM) occurred more frequently in patients with recurrent (25.5%) and progressive (24.6%) tumours compared to primary disease (19.2%; log rank \(p = 0.006\)). Other-cause mortality was similar in all groups (log rank \(p = 0.57\)), and overall mortality was highest in the progressive cohort (62%) compared with the recurrent (58%) and primary groups (54%; log rank \(p < 0.001\)). In multivariable analysis, progression and DSM were predicted by tumour grouping (hazard ratio [HR]: \(>1.15\); \(p < 0.026\)), stage (HR: \(>1.30\); \(p < 0.001\)), and patient age and sex (HR: \(>1.03\); \(p < 0.037\)). Carcinoma in situ was only predictive of outcome in primary tumors. Limitations include retrospective design and limited details regarding bacillus Camille-Gue´rin use.

Conclusions: Patients with relapsing, high-risk, BCa tumors have higher progression, DSM, and overall mortality rates than those with primary cancers. The use of bladder-sparing strategies in these patients should approached cautiously. Carcinoma in situ has little predictive role in relapsing, high-risk, BCa tumors.

Patient summary: The behaviour of aggressive noninvasive bladder cancer varies considerably. In this paper, we compared outcomes from new and relapsing cancers, using a large series of patients from a single British hospital. We found relapsing tumours were more aggressive than similar new cancers and suggest this should be considered when deciding on treatment.

Crown Copyright © 2012 Published by Elsevier B.V. on behalf of European Association of Urology. All rights reserved.

\textsuperscript{1} These authors contributed equally to this work.

* Corresponding author. Institute for Cancer Studies, G Floor, The Medical School, University of Sheffield, Beech Hill Road, Sheffield, S10 2RX, UK. Tel. +44 (0)114 226 1229; Fax: +44 (0)114 271 2268. E-mail addresses: j.catto@sheffield.ac.uk, jimcatto@yahoo.co.uk (J.W.F. Catto).

0302-2838/$ – see back matter Crown Copyright © 2012 Published by Elsevier B.V. on behalf of European Association of Urology. All rights reserved.

http://dx.doi.org/10.1016/j.eururo.2012.08.064