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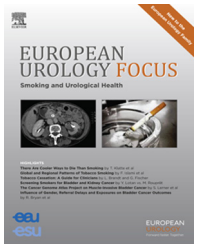

Prostate Cancer

Practice Patterns Compared with Evidence-based Strategies for the Management of Androgen Deprivation Therapy–Induced Side Effects in Prostate Cancer Patients: Results of a European Web-based Survey

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Abstract

Background: Evidence-based recommendations are available for the management of androgen deprivation therapy (ADT)–induced side effects; however, there are no data on the implementation of the recommendations into daily practice patterns.
Objective: To compare practice patterns in the management of ADT-induced side effects with evidence-based strategies.
Design, setting, and participants: A European Web-based survey was conducted from January 16, 2015, to June 24, 2015. The 25-item questionnaire was designed with the aid of expert opinion and covered general respondent information, ADT preference per disease stage, patient communication on ADT-induced side effects, and strategies to mitigate side effects. All questions referred to patients with long-term ADT use. Reported practice patterns were compared with available evidence-based strategies.
Outcome measurements and statistical analysis: Following data collection, descriptive statistics were used for analysis. Frequency distributions were compiled and compared using a generalised chi-square test.
Results and limitations: In total, 489 eligible respondents completed the survey. Luteinising hormone-releasing hormone-agonist with or without an antiandrogen was the preferred method of ADT in different settings. Patients were well informed about loss of libido (90%), hot flushes (85%), fatigue (67%), and osteoporosis (63%). An osteoporotic and metabolic risk assessment prior to commencing ADT was done by

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one-quarter of physicians. The majority (85%) took preventive measures and applied at least one evidence-based strategy. Exercise was recommended by three-quarters of physicians who advocate its positive effects; however, only 25% of physicians had access to exercise programmes. Although the minimum sample size was set at 400 participants, the current survey remains susceptible to volunteer and nonresponder bias.

Conclusions: Patients were well informed about several ADT-induced complications but uncommonly underwent an osteoporotic and metabolic risk assessment. Nevertheless, physicians partially provided evidence-based strategies for the management of the complications. Physicians often advised exercise to reduce ADT-induced side effects, but programmes were not widely available.

Patient summary: Implementation of evidence-based strategies for androgen deprivation therapy–induced side effects in real-life practice patterns should be improved.

1. Introduction

Androgen deprivation therapy (ADT) is one of the cornerstones in the management of locally advanced and metastatic prostate cancer (PCa) [1] but it also negatively influences bone, metabolic, cardiovascular, sexual, and cognitive health as well as body composition [2–6]. These adverse effects are detrimental to patients' health and quality of life (QoL) [7,8]. Physicians are supposed to counsel their patients about these side effects and institute measures to prevent these complications. Recently, evidence-based recommendations have been made that aim to reduce the impact of these side effects [2,7,9]. There are no data regarding which side effects are communicated to the patient and whether recommendations for their management are implemented into daily practice patterns.

The aim of this study was to assess differences between real-life practice patterns in the management of ADT-induced side effects with recommended evidence-based strategies, using a European Web-based survey.

2. Materials and methods

This study was approved by the Ethics Committee of the University Hospital of Ghent (EC UZG 2015/1454). The Web-based survey (surveymonkey.com) was conducted from January 16, 2015, to June 24, 2015, by the members of the Prostate Cancer Working Group of the European Association of Urology (EAU) Young Academic Urologists (YAU). The YAU members designed the 25-item questionnaire through consensus opinion (Supplement 1). All the questions referred to patients treated with ADT (surgical castration or luteinising hormone-releasing hormone (LHRH) antagonists or agonists) for at least 6 mo. The questionnaire was divided into four sections. The first section consisted of general information to identify the characteristics of the respondents (country, type of hospital, clinical experience, and specialty). The second part concerned the type of ADT formulation preferred per PCa setting (neoadjuvant, adjuvant, palliative metastatic, and palliative nonmetastatic settings). The third section covered the communication to patients of side effects and strategies to mitigate them. The last part concerned the preferences for nondrug treatments for ADT-induced side effects.

Before dissemination, a pilot study was conducted by members of the YAU to ensure face validity, appropriateness, practical use of the survey, and clarity. Dissemination of the survey was done through various channels: EAU newsletter, European Society for Radiotherapy and Oncology newsletter, European national urological societies, and during the EAU Congress. The minimum number of reached physicians was 15 000. No incentive was given for the respondents to complete the survey.

Following data collection, descriptive statistics were used for analysis. Frequency distributions were compiled and compared using a generalised chi-square test. To determine differences among sample segments, the following variables were dummy coded: type of hospital (academic vs other), clinical experience ($\leq$10 vs $>$10 yr), and number of patients ($\leq$50 vs $>$50 patients). To evaluate whether differences were related to the geographic origin of respondents, Europe was divided into four areas: Central Eastern Europe (CEE), Northern Europe (NE), Southern Europe (SE), and Western Europe (WE) (Supplementary Table 1). Differences among areas were obtained from a generalised chi-square test, or Fisher exact test if the chi-square condition was not met. Because of multiple comparisons, $p = 0.0026$ was considered statistically significant (adjusted by the Bonferroni method), with all hypothesis testing being two-sided. SPSS 21.0 software (IBM Corp., Armonk, NY, USA) was used for statistical analyses. Evidence-based strategies were defined by Ahmadi and Daneshmand [2] and Nguyen et al. [7]. Non-European physicians or physicians without ADT experience were excluded from the analysis.

3. Results

In total, 550 respondents completed the survey; 61 were excluded because they were non-European or had no experience with ADT. Supplementary Table 2 shows the baseline demographics and characteristics of the eligible European respondents. Of these 489 participants, 151 (31%) practiced in CEE, 69 (14%) in NE, 94 (19%) in SE, and 175 (36%) in WE. Of the 489 European respondents, more than three-quarters were urologists. One-half of the physicians were based at an academic hospital. There were 60% respondents with $<$10 yr of experience in the field of PCa. The vast majority (87%) worked in a multidisciplinary oncologic team for the management of PCa, mostly including urologists, and medical and radiation oncologists. The preferred method of ADT was a LHRH agonist with or without an antiandrogen (AA) in the adjuvant, palliative nonmetastatic, and palliative metastatic settings ($\geq$70%). Figure 1 shows the preferred method stratified by clinical setting. We were not able to detect a significant difference in use of LHRH antagonists among settings. Surgical castration was more often used in the palliative metastatic setting than the adjuvant setting. There was a significantly

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