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Original Article

Health-related quality of life among elderly Americans diagnosed with upper tract urothelial carcinoma

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Abstract

Background: Health-related quality of life (HRQOL) among elderly Americans diagnosed with upper tract urothelial cancer (UTUC) is unknown. We compared HRQOL in patients from before and after UTUC diagnosis and among different tumor stages after UTUC diagnosis using the Surveillance, Epidemiology, and End Results-Medicare Health Outcomes Survey database.

Materials and Methods: This cross-sectional study used the 14 cohorts (1998−2013) of Surveillance, Epidemiology, and End Results-Medicare Health Outcomes Survey to identify elderly Americans (≥65years) diagnosed with UTUC and with completed HRQOL surveys (the Short Form-36 or Veterans Rand-12). Patient surveys were grouped into pre- (Group A) and postdiagnosis (Group B) surveys. HRQOL was reported as least squares means of the physical component summary (PCS), mental component summary (MCS), and 8 subscales, adjusted for covariates. HRQOL least squares means-differences were estimated from separate multivariable regression models. Bonferroni correction was used for multiple comparisons on subscales.

Results: Qualifying patients were identified ($n = 408$; Group A = 177; Group B = 231). Mean PCS and MCS were similar between the 2 groups. However, Group B had significantly worse HRQOL outcomes on general health ($P = 0.015$), vitality ($P = 0.016$), and social functioning ($P = 0.003$) subscales, compared to Group A. Mean MCS was the lowest within 1 year of diagnosis ($P < 0.001$), compared to patients with >1 year before diagnosis, but mean PCS did not change. Mean PCS and MCS were similar across UTUC stages.

Conclusions: UTUC affected some aspects of patients' HRQOL. Most significant decline in mental health was within 1 year of diagnosis. HRQOL measures were not different among different stages. Attention to and provision of remedy to these HRQOL deficits are warranted.

Keywords: Upper tract urothelial carcinoma; Staging; Health-related quality of life; SEER-MHOS

1. Introduction

Outcomes of cancer research are usually described in relation to cancer recurrence, progression, and/or patient survival. These outcomes are essential; however, they may not capture the full impact of cancer on patient's functioning and social well being, especially in elderly patients [1]. Elderly cancer patients are usually under-represented in clinical trials [2]. There are growing reports that in a significant proportion of the elderly cancer population, maintaining an adequate quality of life is more important than length of life [3]. Consequently, there is great enthusiasm in research addressing health-related quality of life (HRQOL) outcomes in elderly cancer patients [4].

Upper tract urothelial carcinoma (UTUC) is a rare malignancy. Transitional cell cancer of the renal pelvis accounts for 7% of all kidney tumors and of the ureter for 1 out of every 25 upper urinary tract tumors [5]. UTUC is associated with bladder recurrences in 22%−47% of patients, recurrences in the contralateral kidney in 2%−6% of patients and concurrent bladder cancer (BC) in 17% of patients [6,7]. UTUC is a

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disease of the elderly with a peak incidence in the 7th–9th decades [6]. However, HRQOL outcomes have never been reported in UTUC. The elderly population in the United States is growing rapidly and it is expected that urological cancers including UTUC, will be increasingly seen by urologists [8].

This study used the Surveillance, Epidemiology and End Results-Medicare Health Outcomes Survey (SEER-MHOS) linkage database to assess for the impact of UTUC on the HRQOL outcomes in the elderly [9]. Reports from the SEER-MHOS database on kidney cancer patients [10] and BC patients [11] revealed a deterioration in both physical and mental health, with limitations in daily activities. In this cross-sectional study, the HRQOL among elderly patients was compared before and after UTUC diagnosis. Additionally, differences in HRQOL were investigated among the different UTUC stages, as well as HRQOL changes by time elapsed since the UTUC diagnosis. We hypothesized that UTUC would negatively affect HRQOL of elderly patients and HRQOL would differ among different stages of the disease. Information on HRQOL can help clinicians address healthcare needs in this population.

2. Materials and methods

2.1. Study participants and procedure

This study was determined not to be human subjects research by the University of Arkansas for Medical Sciences Institutional Review Board because it used de-identified data from the SEER-MHOS database, collected by the collaboration of National Cancer Institute and the Centers for Medicare and Medicaid Services [9]. The SEER collects clinical and demographic data, as well as cause of death among cancer patients, covering 28% of the population of the United States. The MHOS provides information about HRQOL of the Medicare Advantage Organization (MAO) enrollees. During the years 1998–2005, HRQOL was measured in the MHOS using the Medical Outcomes Study Short Form-36 (SF-36). Beginning in the year 2006, the Veterans RAND 12-item Health Survey (VR-12) replaced the SF-36 for measuring HRQOL of the beneficiaries. Details of survey disposition and response rates are described elsewhere [12]. All individuals participating in the SEER-MHOS provided informed consent and the principal investigator (N.P.) signed the required data use agreement.

Included patients were diagnosed with renal pelvis and/or ureteral tumor as their first cancer diagnosis, participated in at least one MHOS survey, and were ≥65 years in age at time of survey completion from the 1998-2013 SEER-MHOS cohorts. Patients who missed SF-36/VR-12 data or missing time since cancer diagnosis were excluded from the study (Fig. 1). Patients were classified into 2 groups based on HRQOL survey completion time (Group A—surveys completed before their UTUC diagnosis; Group B—survey completed after their UTUC diagnosis). For patients who completed both pre- and postdiagnosis surveys ($n = 31$), only their postdiagnosis surveys were used [11].

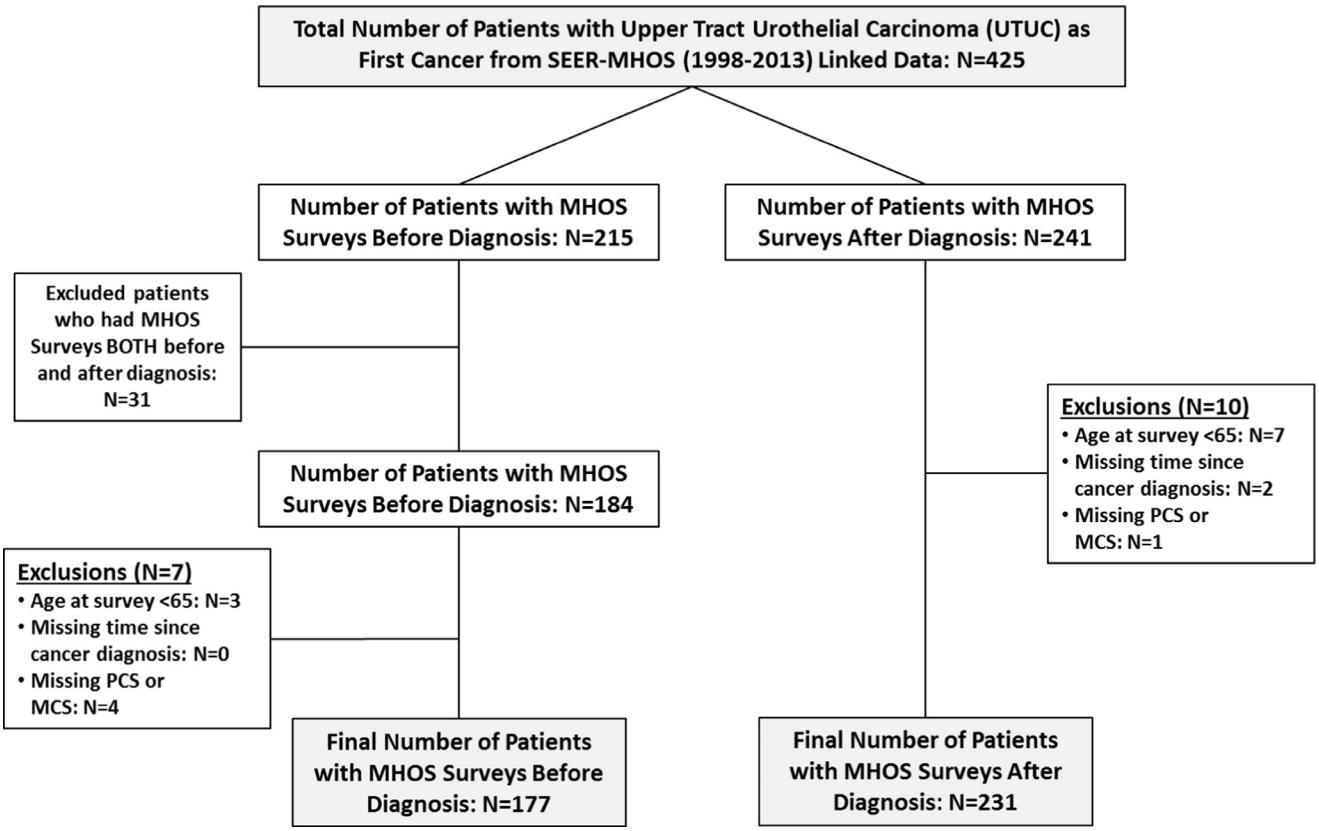

Fig. 1. Sample selection flowchart.