Evaluation of Quality of life pre and post Radical Cystectomy

Essay

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By

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Contents

Abbreviations

TCC	Transitional cell carcinoma
UB	urinary bladder
UICC	International Union Against Cancer
CT	Computerized tonograply.
TNM	Tumor-Node-Metastasis.
QoL	Quality of life.
HRQOL	Health-related quality of life.
PUNLMP	papillary urothelial neoplasm of low malignant potential .
CIS	carcinoma in situ.
EORTC	European Organization for Research and Treatment of Cancer.
ALA	aminolaevulinic acid.
MMC	Mitomycin.
RC	*Radical Cystectomy*
MRI	Magnetic resonance imaging.
LND	lymph node dissection.
LRC	Laparoscopic radical cystectomy

ACCI	Age adjusted Charlson comorbidity index.
ACE	Adult Comorbidity Evaluation.
POSSUM	Physiological and Operative Severity Score for Enumeration of Mortality and Morbidity.
SF-36	Medical Outcomes Study 36-Item Short Form.
QLQ	Quality of Life Core Questionnaire.
FACT	Functional Assessment of Cancer Therapy.
HADS	Hospital Anxiety and Depression Scale.
BCSS	bladder cancer specific Survival.

Introduction

Bladder cancer is the second most common cancer of the genitourinary tract. It affects both genders, and has the highest incidence in the sixth decade of life, being uncommon before 45 years old.

(Millan Rodrigues et al., 2000).

In the USA Bladder cancer is the fourth most common cancer in men and the eight most common cancer in women, with an estimated 57 400 cases being diagnosed in 2003, resulting in 25 100 deaths**.**

***(Jamel et al., 2003*)**

In Egypt bladder cancer is the most prevalent cancer. It constitutes 30.3% of all cancers, 40.6% of male cancers and 14.3% of female cancers ***(El-Bolkainy et al., 1999).***

Racial differences exist with respect to the incidence of bladder cancer. Specifically, this disease afflicts whites more commonly than blacks and Hispanics **(*Ries L.A.G*, *et al 1999*)**

Despite a lower incidence, blacks experience worse survival after a diagnosis of bladder cancer, with a 5-year survival rate of 64.0% for black patients compared with 82.6% for whites.**(*Canto M.T*,*et al 2000*)**

Transitional cell carcinoma (TCC) of the urinary bladder (UB) is the most common histologic form of UB cancer in western countries; accounting for more than 90% of cases ***(Renter, 2000).***

The main staging system of bladder cancer, which has been revised, is the one developed jointly by the International Union Against Cancer (UICC) and the American Joint Committee on

Cancer (AJCC) It is also termed Tumor-Node-Metastasis (TNM). ***(Sobin and Wittekind, 1997)***

Methods of diagnosis of bladder cancer have been urine cytology and cystoscopy. Voided urine cytology has a high specificity of 90-100%, but the sensitivity is low, particularly for low- grade tumors .

(Glas et al., 2003).

Radical cystectomy is the standard treatment for muscle-invasive bladder cancer and superficial high-grade cancer not responsive to intravesical immunotherapy ,but local or distant failure continues to be common reported in the range of 15% to 40% even for early stages of muscle infiltrating tumors (stage 2) ***(Bochner et al., 2004).***

An alternative approach is multimodality bladder preservation, which in modern series includes thorough TURBT, chemotherapy, and radiation therapy. This approach has been developed to improve quality of life for patients who want to maintain urinary function without a diversion, and also for patients who are refusing surgery**.**

(Shipley et al, 2003).

Another alternative treatment is partial cystectomy, which has certain advantages over radical cystectomy, such as preserving a functional continent native urinary reservoir and sparing of potency in males ***(Kassouf et al., 2006).***

The advances in urinary diversion have been made in an effort to provide patients a more normal lifestyle and improved Quality of life and self-image after removal of the bladder , Quality of life (**QoL**) is an

important consideration pre and post radical cystectomy because of the potential negative impact of the surgery on patients satisfaction with body image, and urinary, sexual, and social functioning.

(Mansson A et al.2004)

Measurement of Health-related quality of lif (HRQOL) in patients with bladder cancer revolve around urinary and sexual function. For example, in men, erection, sexual desire, and ejaculation, should be considered. In women, vaginal lubrication, , dyspareunia, and anorgasmia.. Similarly, the assessment of urinary(HRQOL)in patients with bladder cancer, especially after cystectomy, presents challenges not only between sexes, but between different types of diversions.

(***Ramirez A . 2005***).

Different diversions might lead to symptoms unrelated to urinary or sexual domains, such as diarrhea and metabolic abnormalities, also age is a well-known confounder in (HRQOL) assessments,. In addition, age might influence the type of urinary diversion selected, which makes comparisons of HRQOL between different types of urinary diversion difficult.

During the past decade, there has been an increasing focus on quality of life issues and outcomes in various urologic diseases. This has been aided by the development of new, health-related quality of life (HRQOL) instruments for use specifically in urology. Health-related quality of life instruments can be defined as a patient's evaluation of the impact of a health condition and its treatment on relevant aspects of life**.**

(Hart S et al, 1999.)

Multiple questionnaires are available to measure (HRQOL); these questionnaires can be generic (i.e.general), or disease-specific. Generic questionnaires can address issues with energy, stamina and physical function that apply to all individuals, whereas urologic-disease-specific instruments might focus on urinary leakage and sexual function.

Our essay will try to review the current methods for defining Health-related quality of lif (HRQOL),describe the specific challenges in scoring (HRQOL) in patients with bladder cancer undergoing radical cystectomy pre and post operative.

Aim of work

Our essay will try to spotlight on the updated information and researches found in the literature as regards, the current methods for mesearing Health-related quality of lif (HRQOL) pre and post radical cystectomy.

Epidemiology of Bladder Cancer

Incidence:

Bladder cancer is an important tumor of the genitourinary tract with a total of 263,000 new patients being diagnosed in the world in 1999 ***(Parkin, 2001).*** There is a tenfold geographic variation in the incidence of bladder cancer with the highest incidence being reported in North America and North Africa and the lowest in China. In the United States, 57,400 new cases of bladder cancer were diagnosed in 2003 and 12 500 of them died. It is currently the fourth most common cancer in men, after prostate cancer, lung cancer, and colorectal cancer) **,.** But it is the second most prevalent malignancy in middle-aged and elderly men (after prostate cancer***).***In women, it is the ninth most common cancer, accounting for 2.4% of all cancers between 1985 and 2005.

In Egypt bladder cancer is the most prevalent cancer. It constitutes 30.3% of all cancers, 40.6% of male cancers and 14.3% of female cancers .

(El-Bolkainy et al., 1999).

Age:

However, it is primarily a disease of the elderly, Bladder cancer can occur at any age even in children with 80% of patients in the 50-79 year age group and a peak incidence in the seventh decade ***(Sternberg and Calabrd, 2000).***

Median ages at diagnosis for urothelial carcinoma being 69 years in males and 71 years in females. ***(Lynch and Cohen, 1995)***

Sex and Race:

The incidence of bladder cancer in men is nearly three times that in women, it is roughly two times as common among American white men as among African American men and is roughly one and one-half times more common among white American women than among African American women. ***(Walsh et al., 1998)***.

Risk Factors:

Several factors are associated with the development of bladder cancer. Occupational exposure to chemicals is thought to precipitate up to one third of bladder cancers. The risk of developing bladder cancer in people who smoke is four times that in nonsmokers, and a third of all bladder cancers may be related to cigarette smoking. (Nitrosamines and 2-naphthylamine have been found in cigarette smoke and may be the causative agents.) Chronic cystitis, from any cause, increases the risk of developing squamous cell carcinoma of the bladder. Cystitis related to schistosomiasis is worldwide the most common cause of this form of cancer. Bladder calculi may cause a chronic cystitis and over a long period ***(Johansson and Cohen, 1997).***

Morbidity and Mortality:

Bladder cancer accounts for 3.0% of all cancer deaths in men and 1.5% in women. Males have higher 5-year survival rates than women, with this difference in mortality being particularly significant in African American women (white males, 84%; African American males, 71%; white females, 76%; African American females, 51%) ***(Lynch and Cohen, 1995)***

It is of interest to note that 74% of bladder cancer patients in the United States were diagnosed at a localized stage, with 18% presenting with regional, and 3% with distant disease.

Of particular importance to be noted is a common application of bladder conservation treatment and the use of continent bladder replacement techniques following radical cystectomy. All of these newer techniques are responsible for major improvement in quality of life of contemporarily treated patients. ***(Petrovich. Z, 2001) .***

Management of bladder cancer

Accurate staging is important in determining the clinical management and prognosis of bladder cancer, so we will try to spotlight on staging of bladder cancer before the management.

Staging and Grading of Bladder Cancer:

Pathologic staging of the primary tumor is directly associated with the curability of bladder cancer. This finding is important when comparing clinical and pathologic staging among bladder preservation protocols. Patients with bladder cancer are clinically staged using bimanual examination, pelvic CT, chest X-ray, abdominal ultrasonography (Table 1) and bone scintigraphy ***(Gschwend et al., 1997)***.

Table (1): Ultrasound staging of bladder tumors

Ultrasound stage	Criteria
U1	Intraluminal mass with smooth uninterrupted underlying echo dense bladder wall.
U2	Exophytic tumor with a wide base with interrupted superficial layer of bladder wall.
U3a	The whole bladder wall underlying the tumor is interrupted without deformity of bladder wall
U3b	Bladder wall is deformed and bladder capacity decreased. Perivesical fat is invaded by less echogenic tumor and no other pelvic organs are involved
U4	Perivesical extension of the tumor to the prostate, seminal vesicles or rectum.

(AbouYousef et al., 1984)

Tumor, Node and Metastasis (TNM) classification system is the most commonly used for staging of bladder cancer.

Table (2): Staging of Bladder Cancer

Stage	Description
Superficial bladder cancer:	
Ta	Papillary tumor confined to the urothelium and projecting toward the lumen (noninvasive papillary carcinoma).
T1	Papillary tumor invading the underlying lamina propria (tumor invades subepithelial connective tissue).
Tis	Flat, reddened lesion on cystoscopic appearance, high-grade histologic features confined to the urothelium (carcinoma in situ).
Invasive bladder cancer:	
T2	***T2a***: Tumor invades the inner half or the smooth muscle layer. ***T2b***: Tumor invades the outer half of the smooth muscle layer.
T3	***T3a***: Tumor invades the fat layer on microscopic examination. ***T3b***: Tumor invades the fat layer on macroscopic examination (a so-called extravesical mass).
T4	***T4a***: Tumor invades the prostate, uterus, or vagina. ***T4b***: Tumor invades the pelvic or abdominal wall.
N^+	Tumor has invaded a local lymph node.
M^+	Tumor has metastasized and progressed to a distant organ.

(Pashos et al., 2002)

When a biopsy is taken or a tumor resected it is crucial to include a specimen of muscle so that the histopathologist can accurately determine whether tumor has invaded any muscle.

In addition to being staged, tumors are graded by their state of differentiation **(Table 3)**.