

## Original Research Article

# Quality of life assessment in patients of bladder cancer with radical cystectomy and ileal conduit

Vikas Gupta<sup>1\*</sup>, Vardachary Srinivas<sup>2</sup>

<sup>1</sup>Department of General Surgery and Urology, Pacific Institute of Medical Sciences, Umarda, Udaipur, Rajasthan, India

<sup>2</sup>Department of Urology, PD Hiduja National Hospital and MRC, Mumbai, Maharashtra, India

**Received:** 15 August 2019

**Revised:** 07 October 2019

**Accepted:** 09 October 2019

### \*Correspondence:

Dr. Vikas Gupta,

E-mail: [gupta.drvikas@yahoo.com](mailto:gupta.drvikas@yahoo.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Bladder cancer, a lethal disease accounts for 3% of cancer deaths. With possibility of various urinary diversion options after bladder removal having comparable cancer control and complications, quality of life becomes an important factor in deciding the type of urinary diversion.

**Methods:** Retrospective observational study with statistically appropriate sample size of 50. Patients of radical cystectomy and ileal conduit given validated Functional Assessment Of Chronic Illness Therapy for Bladder Cancer (FACT-BI) Questionnaire to answer about post-operative quality of life in terms of five parameters i.e., physical, mental, social, emotional and cancer specific well-being after 1 year of surgery.

**Results:** Results analysed by FACIT-BI questionnaire analysis methods statistically, in terms of total scores and subscores. In our study the mean scores of physical well-being (PWB) subscale is  $24.08 \pm 4.67$  (range 0-28), social well-being (SWB) subscale is  $23.52 \pm 4.35$  (range 0-28), emotional well-being (EWB) subscale is  $20.06 \pm 5.09$ , functional well-being (FWB) subscale is  $21.84 \pm 6.01$  (range 0-28), bladder cancer subscale is  $36.44 \pm 5.72$  (range 0-48). While mean trial outcome index score is  $82.16 \pm 3.5$  (range 0-104), FACT- General (G) score is  $89.50 \pm 15.88$  and mean FACT-BI total score is  $125.94 \pm 19.04$ . These scores provides the quantitative assessment of the quality of life and higher scores indicates better quality of life.

**Conclusions:** Assessing quality of life for a particular type of urinary diversion, with questionnaires, gives surgeons and patients, guidance regarding diversion of choice.

**Keywords:** Bladder cancer, Radical cystectomy, Ileal conduit, Quality of life, Questionnaire

## INTRODUCTION

Bladder cancer is a lethal disease which accounts for 3% of all cancer deaths. In 2010 there were estimated 70,530 new cases of bladder cancer in the United States, and over 500,000 current survivors.<sup>1</sup> The standard of care for muscle-invasive bladder cancer is radical cystoprostatectomy in men and anterior exenteration in women.

Options for urinary diversion after cystectomy include noncontinent conduits, continent cutaneous diversions, and orthotopic bladder substitutes have been shown to have similar perioperative complication rates, cancer control, and morbidity.<sup>2,3</sup>

For >30 years, the ileal conduit (IC) has been considered the “standard” urinary diversion for bladder cancer patients undergoing radical cystectomy.

With the possibility of urinary diversion options for bladder cancer that have comparable cancer control and complication rates, quality of life becomes an important factor to consider.

By definition, Health-related quality of life (HRQoL) refers to the physical, psychological, and social domains of health that are influenced by a person's experiences, beliefs, expectations, and perceptions.<sup>4</sup>

HRQoL is measured with questions, or items, whose answers can be converted to numerical scores. Many questionnaires, or instruments, have been developed to assess the various aspects of HRQoL.<sup>2,3,5</sup>

### Objectives of the study

To assess the quality of life in patients who have undergone surgery for carcinoma bladder in the form of radical cystectomy and ileal conduit and to quantify such assessment statistically in form of questionnaire scores so that patient and surgeons can select a diversion of choice.

## METHODS

This study was conducted at P.D. Hinduja National Hospital and Medical Research Centre, Mumbai, India, a multispecialty tertiary care 550 bedded hospital.

The patients were approached on outpatient basis. Patients of bladder cancer who had undergone surgery in form of radical cystectomy and ileal conduit during January 2007 to February 2014. It was a retrospective observational study with sample size of 50 patients. The age of the cases ranged from 34 to 86 yrs with average age being 64.20 years. 88.0% of the total cases were male in this study. In this study, duration since surgery ranged from 1 to 7 yrs with average duration being 4.04 years (Table 1 and 2).

### Inclusion criteria

Patients of bladder cancer who have undergone surgery in form of radical cystectomy and ileal conduit in period during January 2007 to February 2014. Patients who have spent at least 1 year of life after surgery and patients who did not require any other adjuvant treatment and who were considered disease free after surgery.

### Exclusion criteria

Patients with metastatic disease and margin positivity in histopathology and Surgery for palliative purpose.

### Methodology

To assess the present quality of life, patients who had spent at least one year of life after surgery and were alive at the time of study were contacted on Opd basis / telephonically / by e-mail and were given Functional

Assessment of Chronic Illnesses Therapy (FACIT) Questionnaire for bladder cancer (FACT-BI Questionnaire version 4) which is a validated questionnaire.

The FACT-BI consists of total 39 questions including five subscales: (1) physical well-being (PWB; 7 items), (2) functional well-being (FWB; 7 items), (3) emotional well-being (EWB; 6 items), (4) social well-being (SWB; 7 items), and (5) an additional concerns scale specific to bladder cancer (13 items).

The additional concerns scale assesses urinary function (3 items), bowel function (2 items), sexual function (2 items), body image (1 item), weight loss/appetite (2 items), and issues concerning an ostomy appliance (2 items).

The PWB, FWB, EWB, and SWB subscales can be summed to form the FACT General (FACT-G) score. The PWB, FWB, and additional concern subscales can be summed to form the Trial Outcome Index (TOI).

A 5-point Likert scale ranging from 0 ("not at all") to 4 ("very much") will be used to rate all FACT items. All questions inquire about the patient's quality of life during past seven days. Higher scores indicate higher quality of life.

### Statistical methods and data analysis

10.0 version of statistical software SPSS was used.

**Table 1: Demographical data (n=60).**

Parameters	
<b>Age (years)</b>	
Mean	64.20
SD	12.06
Range	34-86
<b>Sex, N (%)</b>	
Male	44 (88.0)
Female	06 (12.0)

**Table 2: Average duration since surgery in study cases (n=50).**

Duration	
<b>Mean</b>	4.04
<b>SD</b>	2.07
<b>Range</b>	1– 7 years

## RESULTS

### Physical well-being

The study reveals that 42% of patient did not have a lack of energy while 28% felt slight lack of energy and only two patients out of 50 reported severe lack of energy

which may be attributed to old age and other co-morbidities.

94% patient did not have any nausea while 6% patient had occasional nausea that is unrelated to the disease. Over 64% of the patients had 'no problems' in meeting the needs of their family and another 22% were also able to 'fulfil family needs' without major problem. Only three patients because of their physical condition found it difficult to fulfil their family needs.

90% of the patients 'did not have any pain' while 10% patients felt 'some pain' at stoma and wound site.

The treatment is in the form of radical cystectomy so most (90%) of patients are 'not bothered with side effects of treatment' as seen in other modalities like chemotherapy and radiotherapy.

The 'feeling of illness' was not there in 88% of patients while one patient (2%) felt 'too ill'.

Only two patients in our study were forced to spend time in the bed because of their physical weakness, old age and disease while 76% cases were performing their normal physical activities.

The mean physical well-being (PWB) subscale score in our study is  $24.08 \pm 4.67$  (range 0-28).

#### ***Social/family well-being***

In this study, data reveals that 76% patients felt closeness to their friends and 86% cases got a lot of emotional support from their families. None of them said that they were not supported by their families.

94% of patients said that their families have 'completely accepted' their illness and 88.3% felt closeness to their partner and they were 'fully satisfied with their family communication' about the disease. Regarding the question about satisfaction with sex life only 16 out of 50 patients answered their question. Only two patients seem to be 'satisfied' with their sex life while 9 patients were 'not at all' satisfied. The mean social/family well-being (SWB) subscale score of this study is  $23.52 \pm 4.35$  (range 0-28).

#### ***Emotional well-being***

In our study majority of the patients were 'not sad' (84%) while only 2% were 'very sad' because of the disease. 76% patients were 'very much' satisfied with the way they were coping with their illness and 86% were fighting with the disease with 'high hopes'.

90% of the patients were 'not nervous' and were not worried about dying. 84% of the patients were not worried that 'their condition will get worse'.

The mean emotional well-being (EWB) subscale score in our study is  $20.06 \pm 5.09$ .

#### ***Functional well being***

82% of our patients were able to do work 'normally' while 10% patient were not able to work because of the disease, old age and effects of the surgery and while for majority of them (80%) work was 'fulfilling'.

74% of the patients were able to enjoy their life nicely and 'enjoy the things they usually do for fun'. 88% of the patients said, that they have 'accepted their illness fully'.

Majority of the patients (70%) were 'fully content with the quality of life right now' while 6% patients are not content with the quality of life because of their physical, mental and emotional factors.

The mean functional well-being (FWB) subscale score in our study is  $21.84 \pm 6.01$  (range 0-28).

#### ***Additional concerns for bladder cancer subscale***

This subscale is specific for bladder cancer patients and assesses problems related specifically for bladder cancer. This includes 12 questions of which two are specific for patients with ostomy appliance and one question regarding erection is specific to men.

As our patients were with ileal conduit, so they had no issues regarding the control of their urine.

62% of the cases said that they have 'not lost the weight' while 26% said that they have lost it a 'little bit', 4% patients said that they have lost their weight 'very much', which may be because of the decrease in appetite or progression of the disease.

Control of the bowels and frequency of urination are the concerns mainly for the MAINZ type of diversion and for the neo bladder group so in our study 99.9% cases replied to have normal urine output. Although five patients said they had diarrhoea but the cause should not be attributed to the surgery.

In our study 74% of the patients had a 'very good' appetite and another 18% had adequate appetite.

Most of the patients were happy with the 'appearance of their body' which is related to the presence of urinary stoma on anterior abdominal wall.

53.1% patients have marked the response '4' i.e., very much and 40.8% patients have marked response '3' i.e., quite a bit. None of the patient was completely dissatisfied with their body appearance.

74% patients had no embarrassment with their stoma attributable to psychological counselling.

62% patients in our study had no difficulties in managing ostomy appliance while 18% had only little difficulty. Four patients (8%) in this study found it very difficult to manage with stoma.

55.6% patients (20) in this study were 'not at all' interested in sex while 13.9% (5) patients were only 'little bit' interested. Five patients were 'quite a bit' interested in sex while one patient said that he is 'very much' interested in sex. 69% (20) the patients said that they are not able to maintain erection while 13.8% (4) patients had 'a little bit' erection, 6.9% (2) patients had 'some-what' erection while 10.3%(3) patients were 'quite a bit' able to maintain erection. The mean bladder cancer subscale score is  $36.44 \pm 5.72$  (range 0-48).

The higher subscale scores indicate higher quality of life.

The trial outcome index score (TOI) is the sum of PWB score, FWB score and bladder cancer subscale (BICS) score. The mean TOI score in our study is  $82.16 \pm 13.5$  (range 0-104).

FACT-G total score in sum of PWB, SWB, EWB and FWB score and the mean score for our study is  $89.50 \pm 15.88$ .

FACT-BI total score is the sum of all subscale score and score range is 0-156.

The mean FACT-BI total score for our study is  $125.94 \pm 19.04$ .

**Table 3: Profile of subscale scores (n=50).**

Subscale	Mean subscale score (mean±SD)	Score range
PWB	24.08±4.67	00–28
SWB	23.52±4.35	00–28
EWB	20.06±5.09	00–24
FWB	21.84±6.01	00–28
BICS	36.44±5.72	00–48

**Table 4: Profile of total score (n=50).**

Parameters	Mean Total score (mean±SD)	Score range
TOI	82.16±13.51	000–104
FACT-G Total Score	89.50±15.88	000–108
FACT-BI Total Score	125.94±19.04	000–156

## DISCUSSION

Classically ileal conduit has remained the diversion of choice after cystectomy because of its simplicity and least complication rate although most of the studies have shown that there is no significant difference in the quality

of life of patients with various types of urinary diversions but recently few studies have shown better patients satisfaction with neo bladder group.<sup>6</sup>

We decided to undertake assessment of HRQoL with FACT system in our patients because it is an internationally validated questionnaire. Cella et al developed this system involving a five phase validation process involving 854 patients with cancer and 15 oncology specialists.<sup>7</sup>

We studied post-operative quality of life in patients of radical cystectomy and ileal conduit because very less Indian data are available in this regard.

At our centre between the period January 2007 to February 2014, 141 patients underwent surgery in the form of radical cystectomy for cancer bladder. Out of this 54 patients expired before the beginning of our study, ileal conduit was made in 77 patients which is the most common method of diversion at our centre, 11 patients were non approachable and 3 patients were excluded because of metastatic disease while 4 patients refused to participate.

In our study the mean duration since surgery was 4.04 years ranging from 1-7 years as per our inclusion criteria.

We assessed the quality of life, post one year of surgery as according to Kulaksizoglu et al, quality of life stabilizes one year after surgery with no changes thereafter.<sup>8</sup> Several other studies have assessed this parameter after various time, ranging from few weeks to 24 months after surgery.<sup>9-16</sup>

Specifically to mention studies by Kikuchi et al, and Kristina et al using FACT-BI questionnaire which also has shown high QoL scores with total scores of  $123.6 \pm 19.2$  and  $106.3 \pm 16.4$  respectively as compare to score of  $125.94 \pm 19.4$  in our study which confirms the high QoL in ileal conduit patients.<sup>17,18</sup>

## CONCLUSION

New methods for reconstructive surgery are usually introduced with the goal of increasing the quality of life. Ileal conduit formation after radical cystectomy is the most commonly used method of urinary diversion which also provides higher quality of life as indicated by higher subscale scores in our study. Patients with malignant disease should be cured with the least possible detriment to the QoL. Over the past 20 years numerous studies have been done assessing the QoL after cystectomy using different methods of reconstruction. Patients should be given an option of urinary diversion based on these studies to achieve their optimum quality of life.

## ACKNOWLEDGEMENTS

Authors would like to thanks Dr Jini Gupta, Assistant Professor, Department of Obstetrics and Gynaecology,

PIMS, Udaipur in helping to collect data and review of literature.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Jemal A, Siegel R, Xu J, Ward E. Cancer statistics, 2010, CA. Cancer J Clinicians. 2010;60(5):277–300.
2. Porter MP, Wei JT, Penson DF. Quality of life issues in bladder cancer patients following cystectomy and urinary diversion. Urologic Clinics North Am. 2005;32(2):207–16.
3. Bottleman MF, Pashos CL, Hauser RS, Laskin BL, Rednelli A. Quality of life aspects of bladder cancer. A review of literature. Quality of life Res. 2003;12:675-88.
4. Testa MA, Simonson DC. Assessment of quality-of-life outcomes. New England J Med. 1996;334(13):835–40.
5. Webster K, Cella D, Yost K. The Functional Assessment of Chronic Illness Therapy (FACIT) Measurement System: Properties, applications, and interpretation. Health and Quality of Life Outcomes. 2003;1:79.
6. Hart S, Skinner EC, Meyerowitz BE, Boyd S, Lieskovsky G, Skinner DG. Quality of life after radical cystectomy for bladder cancer in patients with an ileal conduit, cutaneous or urethral kock pouch. J Urol. 1999;162(1):77–81.
7. Cella DF, Tulsky DS, Gray G, Sarafian B, Linn E, Bonomi A, et al. The Functional Assessment of Cancer Therapy scale: development and validation of the general measure. J Clin Oncol. 1993;570-9.
8. Madersbacher S, Schmidt J, Eberle JM. Long term outcome of ileal conduit diversion. J Urol. 2003;169:985–90.
9. Mansson A, Colleen S, Hermeren G, Johnson G. Which patients will benefit from psychosocial intervention after cystectomy for bladder cancer? Br J Urol. 1997;80(1):50–7.
10. Rocco F, Scardino E, Carmignani L, Frea B, Strada G, Kocjancic E, et al. Orthotopic ileal neobladders in men and women: Techniques and comparison. Arch Ital Urol Androl. 1996;68(5):293–8.
11. Hardt J, Filipas D, Hohenfellner R, Egle UT. Quality of life in patients with bladder carcinoma after cystectomy: First results of a prospective study. Qual Life Res. 2000;9(1):1–12.
12. Fujisawa M, Isotani S, Gotoh A, Okada H, Arakawa S, Kamidono S. Health-related quality of life with orthotopic neobladder versus ileal conduit according to the SF-36 survey. Urology. 2000;55(6):862–5.
13. Weijerman PC, Schurmans JR, Hop WC, Schroder FH, Bosch JL. Morbidity and quality of life in patients with orthotopic and heterotopic continent urinary diversion. Urology. 1998;51(1):51–6.
14. Vallorosi CJ, Wei JT, Gerlach M, Wood DP, Montie JE. Gender differences in urinary function after orthotopic neobladder. J Urol. 1999;161(4):90.
15. McGuire MS, Grimaldi G, Grotas J, Russo P. The type of urinary diversion after radical cystectomy significantly impacts on the patient's quality of life [see comments]. Ann Surg Oncol. 2000;7(1):4–8.
16. Kitamura H, Miyao N, Yanase M, Masumori N, Matsukawa M, Takahashi A, et al. Quality of life in patients having an ileal conduit, continent reservoir or orthotopic neobladder after cystectomy for bladder carcinoma. Int J Urol 1999; 6(8): 393–399.
17. Kikuchi E, Horiguchi Y, Nakashima J, Ohigashi T, Oya M, Nakagava K, et al. Assessment of Long-Term Quality of Life Using the FACT-BL Questionnaire in Patients with an Ileal Conduit, Continent Reservoir, or Orthotopic Neobladder. Jpn J Clin Oncol. 2006;36(11):712-6.
18. Kristina HK, Karry SC, Scott N, Peter V. Association between exercise & quality of life in bladder cancer survivor: A population based study. Cancer Epidemiol Biomarkers Prev. 2007;16(5).

**Cite this article as:** Gupta V, Srinivas V. Quality of life assessment in patients of bladder cancer with radical cystectomy and ileal conduit. Int Surg J 2019;6:4012-6.