

Research on the Progress and Influencing Factors of Fear Disease in Patients with Bladder Cancer after Operation

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Abstract: To understand the status of fear disease progression in patients with bladder cancer after intravesical instillation chemotherapy and to analyze the influencing factors, so as to provide reference for psychological nursing. Methods A questionnaire survey was conducted on 110 patients with bladder cancer after the first bladder infusion chemotherapy using general questionnaire, fear disease progression simplification scale and simple disease perception questionnaire. Results The total score of patients with fear disease progressed (25.31 ± 5.35), 7.27% of patients showed psychological dysfunction; multiple regression analysis showed disease perception, tumor recurrence, tumor histological grade, gender, age was the influencing factor of fear disease progression in patients with bladder cancer after intravesical instillation chemotherapy ($P < 0.05$, $P < 0.01$). Conclusion Patients with intravesical instillation chemotherapy after bladder cancer have fear of disease progression. Women who need to focus on women, recurrence and high histological grade can improve the level of fear disease progression by improving disease perception.

Keywords: Bladder cancer; Intravesical infusion chemotherapy; Fear of disease progression; Disease perception; Influence factor

Bladder cancer is one of the common malignant tumors in the urinary system. Non-muscle invasive bladder cancer refers to bladder tumors that are confined to the subepithelial connective tissue and have no infiltration of bladder malignant tumors^[1]. At present, the international emphasis on early diagnosis, early transurethral resection of bladder tumor (TURBT) combined with intravesical instillation treatment can prevent progression and recurrence of non-muscle invasive bladder cancer^[2]. Fear of Progression (FOP) refers to the individual's fear of all diseases associated with its actual existence, that is, the various bio-social psychological consequences brought about by the progress of feared diseases or the recurrence of feared diseases^[3]. Fear disease progress has been actively concerned by scholars at home and abroad. Existing research believes that the fear of disease progression is not only the most important burden of psychological and spiritual emotions of many cancer patients, but also the most unsatisfied and satisfied in the psychosocial needs. Aspects of concern^[4-5]. After TURBT combined with intravesical instillation chemotherapy in patients with non-muscle invasive bladder cancer, the 5-year recurrence rate is still as high as 50% to 70%, and 10% to 15% progress to myometrial invasive bladder cancer^[6]. Higher recurrence rate and progression rate cause patients to have certain fear, so it is necessary to give an accurate assessment of their fear disease progression, objectively understand the extent of their fear of disease progression and analyze the influencing factors, and provide reference for more effective psychological care.

1. Materials and Methods

1.1 General Information

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Patients with non-muscle invasive bladder cancer who underwent intravesical instillation chemotherapy after TURBT in our department of urology from January 2017 to March 2018 were enrolled. Inclusion criteria: 1 pathological diagnosis is consistent with non-muscle invasive bladder cancer, no adjacent organ spread and distant metastasis; 2 TURBT intravesical chemotherapy within 1 week after surgery; 3 age \geq 18 years; 4 have a certain reading comprehension ability, informed consent And volunteered to participate in this study. Exclusion criteria: 1 cognitive impairment or severe mental illness; 2 understanding of expression disorders. Effectively investigated 110 patients, 87 males and 23 females; aged 28-89 (66.89 \pm 10.86) years old; 102 cases of initial onset, 8 cases of recurrence; 70 cases of single lesions, 40 cases of multiple lesions; The American Cancer Association/International Union Against Cancer announced revision of the histological grade of bladder cancer in 2010 [7]: 51 cases of high grade and 59 cases of low grade. No urinary bladder perforation occurred after TURBT, and intravesical instillation chemotherapy was performed for the first time after urethral hematuria for 3 to 4 days.

1.2 Method

1.2.1 Survey Tools

① General Survey Form. Designed according to the purpose of the study, including general demographic characteristics such as gender, age, education level, on-the-job status, personal monthly income, etc.; related to disease and intravesical chemotherapy, including surgical procedures, number of tumor lesions, histological grade, tumor recurrence and so on. ② Fear of Progression Questionnaire-Short Form (FOP-Q-SF). The scale was developed by Mehnert et al. [8] and consists of two dimensions of physiological health and social family, with six entries in each dimension. The physiological health dimension mainly refers to the fear of patients' health of their own diseases. The social family dimension mainly refers to patients' fear of their social family function. The entry uses the Likert 5 scale. The total score is 12 to 60. The higher the total score, the higher the degree of fear disease progression. The total score $>$ 34 indicates that the patient has developed mental dysfunction. The Chinese version of FoP-Q-SF was finished by Wu Qiyun et al. [9], and the Cronbach's α coefficient was 0.883. ③ Brief Illness Perception Questionnaire (BIPQ). Developed by Broadbent et al [10], the patient's disease description was investigated, including 9 items, 5 of which were used to assess the patient's disease perception, including outcome, duration, individual disease control, treatment control, and disease identity; The items are used to assess the patient's emotional state, including disease attention, mood; one item is used to assess the patient's understanding of the disease; an open question is used to explore the cause and effect of the disease. Except for the open question, the other items are scored from 0 to 10 (the third, fourth, and seventh items are scored in reverse). The higher the score, the more negative perception the individual has, and the more severe the symptoms are. The scale has a Cronbach's alpha coefficient of 0.79 and a test-retest reliability of 0.70.

1.2.2 Investigation Method

A qualified nurse who is qualified as an investigator will be investigated during the first bladder infusion to retain the drug. The patient changed his position every 30 minutes during the retention of the drug, a total of 4 times, and the questionnaire was issued when the 3rd to 4th position was changed. At this time, the subject had a certain understanding of intravesical chemotherapy. Before the questionnaire is issued, the purpose and significance of the investigation are explained to the respondents. After obtaining the consent, the questionnaire is completed by anonymous means. The questions raised by the research subjects are based on the unified guidance language without any suggestive answers. For those who fill in the difficulties, the investigators fill in the answers based on the patients' responses. The questionnaires are filled out immediately after the completion of the questionnaires, and the integrity of the questionnaires is checked one by one. A total of 110 questionnaires were distributed, all of which were valid questionnaires. The surgical

procedure, the number of tumor lesions, the histological grade of the tumor, and the recurrence of the tumor are filled out by the investigator immediately after the questionnaire is filled in.

1.2.3 Statistical Methods

Data analysis was performed using SPSS 19.0 software. Using t test, one-way ANOVA, rank sum test, Pearson correlation analysis, multiple linear regression analysis, the test level $\alpha = 0.05$.

2. Results

2.1 In patients with bladder cancer after surgery, patients with urinary disease progression and disease perception scores were divided into two groups (25.31 ± 5.35), of which the physiological health dimension score (14.20 ± 2.96) Points, social dimension scores (11.11 ± 3.25) points; > 34 points accounted for 7.27% (8 / 110); the top three items of the score are "Worried that drugs will harm the body", "Worried about the disease process in which there will be some major treatments in it", "I think the disease may progress and become anxious", scores (2.71 ± 0.96), (2.65 ± 0.74), (2.44 ± 0.87) points; the three items after the score are "Worried that the disease may be passed to my child", "I am troubled by the idea of reducing work efficiency due to illness", "Worried that sometimes I can't continue my hobby because of illness." / hobby, score (1.50 ± 0.70), (1.84 ± 0.83), (1.85 ± 0.93) points. The disease perception score (32.74 ± 9.89) points; the patient's etiology of the disease is: drinking less water, older, smoking, urinating.

2.2.2 Comparison of the scores of fear disease progression in patients with bladder cancer after surgery for different characteristics of bladder cancer. See Table 1.

2.3 Correlation between patient fear disease progression and disease perception

The total score of fear disease progression was positively correlated with disease perception score ($r=0.596$, $P<0.05$).

2.4 Multiple linear regression analysis of the factors influencing patients' fear disease progression The total score of fear disease progression was used as the dependent variable, and five statistically significant variables and disease perception scores were used as independent variables in the univariate analysis to perform multiple linear regression analysis. ($\alpha = 0.05$, $\alpha = 0.10$), and the results are shown in Table 2.

Table 1 Comparison of scores of fear disease progression in patients with bladder cancer after surgery for different characteristics of bladder cancer

project	category	Number of cases	Fear disease progression	Statistics	P
			($\bar{x} \pm s / [M(P_{25}, P_{75})]$)		
gender	male	87	24.25 ± 4.67	$t = 3.763$	0.001
	female	23	29.30 ± 5.97		
age (years old)	28~	7	30.00(28.00,31.00)	$\chi^2 = 15.242$	0.002
	46~	19	26.00(24.00,31.00)		
	60~	60	24.00(22.00,28.00)		
	75~89	24	22.00(20.00,24.75)		
Educational level	Elementary school and below	35	22.00(22.00,27.00)	$\chi^2 = 4.994$	0.172
	middle school	53	26.00(22.00,30.50)		
	High school/secondary school	13	26.00(23.50,27.50)		
	College and above	9	24.00(20.00,26.50)		
In-service situation	In-service	10	26.00(23.75,28.00)	$Z = 0.616$	0.538
	non in-service	100	24.00(22.00,28.00)		
Personal monthly income (yuan)	2001~	66	25.02 ± 5.53	$F = 1.742$	0.163
	4001~	12	26.75 ± 4.16		
	>6000	20	26.85 ± 4.49		
Tumor lesion	Single shot	70	23.73 ± 4.62	$t = 4.433$	0.000
	Multiple	40	28.08 ± 5.48		
Tumor histological grading	low-level	59	24.03 ± 5.30	$t = 2.768$	0.007
	high-level	51	26.78 ± 5.07		
	recurrence	8	31.50(30.25,38.25)		
Tumor recurrence	Initial	102	24.00(22.00,28.00)	$Z = 3.587$	0.000
	recurrence	8	31.50(30.25,38.25)		

Table 2 Multiple linear regression analysis of influencing factors of fear disease progression in patients with bladder cancer after bladder cancer ($n = 110$)

variable	β	SE	β'	t	P
constant	20.738	3.067	—	6.671	0.000
Disease perception	0.205	0.040	0.379	5.129	0.000
Tumor recurrence	4.156	1.473	0.203	2.822	0.006
gender	2.365	0.949	0.180	2.492	0.014
Tumor histological grading	1.118	0.411	0.184	2.718	0.008
Tumor lesion	1.498	0.804	0.135	1.862	0.065
age	-0.087	0.035	-0.176	-2.483	0.015

Note: The variable assignment is gender male = 0, female = 1; tumor lesions: single hair = 1, multiple = 2; tumor histological grade: low grade = 1, high grade = 2; tumor recurrence: initial = 0, recurrence = 1; age and disease perception are actual values. The regression equation $F=21.728$, $P=0.000$, $R=0.747$, $R^2=0.559$, adjust $R^2=0.533$.

3. Discussion

3.1 Progress of Fear Disease in Bladder Infusion Chemotherapy Patients after Bladder Cancer Surgery

With the advancement of diagnosis and treatment technology, the ways and means of treating cancer have made great progress. However, due to the pathophysiological characteristics of cancer itself, its disease progress is still an unsolved problem, and it is also the most worrying problem for patients. Fear disease progression is a complex emotional response of cancer patients. Long-term and/or excessive fear can reduce the compliance of cancer patients' treatment of diseases, affect their quality of life and social function, and increase medical expenses [11]. The progression of fear of disease in bladder cancer patients may be related to the characteristics of the disease. Bladder cancer is the highest recurrence rate of all solid tumors, and 16% to 25% of relapsed patients have an increased degree of malignancy or progression to invasive tumors, that is, tumor progression [12]. A qualitative study of the psychological experience of patients with bladder perfusion after resection of bladder malignant tumors shows that patients are not sure about the prospects of disease treatment. The most discussed are the fear of recurrence and death. Patients must experience tension, pain, anxiety, negative emotions such as fear [13]. This study showed that the total score of fear disease progression in patients with bladder cancer after intravesical instillation chemotherapy (25.31 ± 5.35) points, slightly higher than Lin Yuqing et al [14] on cancer patients during the radiotherapy and chemotherapy period of fear of disease progression scores, which may be Patients with bladder cancer have a certain understanding of the disease and prognosis before surgery, and are more likely to know the possibility of recurrence or progression. However, the scores of patients with liver cancer who are lower than Chen Qun [15] may progress faster and have a worse prognosis. related. The poor prognosis of cancer determines that cancer patients have complex psychology such as nervousness, worry, fear, depression, etc. Fear disease progression is a normal psychological reaction, but if it exceeds the normal range, it is in a state of mental dysfunction. 27% of patients have psychological dysfunction. It is not only necessary to pay attention to the patient's fear of disease progression, but also to assess the frequency and extent of fear from a professional perspective, in order to implement human-centred care from the perspective of patients, rather than being limited to care and care for their diseases [16]. In this study, patients with fear of disease progression in the physiological health dimension score (14.20 ± 2.96) were higher than the social family dimension (11.11 ± 3.25), which may be focused on the subject during the surgery, focusing on His current physical health, such as the harm of drugs to the body, treatment effects, etc.; at the same time, the incidence of bladder cancer increases with age, the incidence of the elderly is mostly, may be related to the majority of the elderly retirement, social family function is gradually reduced. Tips: When psychologically caring for patients with bladder cancer, start from the patient's physical health dimension, let the patient describe the current feelings and fears,

understand the patient, active counseling to help patients ease the negative psychology in the early postoperative period, and actively cooperate with follow-up treatment and follow-up work.

3.2 The progression of fear disease in bladder instillation chemotherapy patients after bladder cancer surgery is affected by many factors.

With the advancement of biological, psychological and social medical models, integrating the content of psychosocial field into the clinical treatment and nursing of malignant tumors is an inevitable trend of medical development. Studies have shown that cancer survivors have long been fearful of disease progression, and this level of fear is fluctuating and is affected by many factors ^[9]. This study showed that factors influencing the progression of fear of disease in patients with bladder cancer after intravesical instillation chemotherapy include disease perception, tumor recurrence, tumor histology grade, gender and age.

3.2.1 Disease Perception

Disease perception is the individual's cognitive assessment of the disease in the event of a disease or health threat ^[17]. Studies have shown that disease perception ^[17] is one of the important factors affecting patients' coping behavior and psychological response ^[18]. This study shows that disease perception is the primary influencing factor of fear disease progression in patients with bladder cancer after surgery, mainly because patients are very concerned about the disease, feel that they can not control the disease, the disease has a greater impact on their own lives, seriously affecting themselves Emotions. Therefore, it is necessary to help patients establish correct disease perception. Health education, health talks, patient associations, and WeChat/telephones can be used to help patients understand and understand diseases, guide disease response skills, and pay attention to disease follow-up, treatment, and review. To reduce the level of fear of disease progression in patients.

3.2.2 Tumor Recurrence

The main clinical features of non-muscle invasive bladder cancer after TURBT are high risk of recurrence, followed by disease progression ^[19]. This study confirms that patients with tumor recurrence are more likely to develop fear of disease progression. Bladder cancer has the characteristics of high recurrence rate, low malignancy and long survival time. Many patients have multiple recurrences, multiple operations, fear of disease progression after tumor recurrence, and fear of developing myometrial invasive bladder cancer. It is suggested that standardized post-disciplinary comprehensive treatment strategies for patients with bladder cancer should be established, including secondary resection, compliance with bladder perfusion therapy, regular follow-up, regular cystoscopy, psychological care, etc., in order to achieve the purpose of controlling disease progression.

3.2.3 Tumor Histological Grade

Histological grading is one of the most important features to evaluate the prognosis of bladder cancer ^[20]. The histological grade of bladder cancer is recommended to be two-stage, high-grade and low-grade. 20% of bladder cancer is high-grade urothelial carcinoma. These tumors have the characteristics of easy recurrence and metastasis after operation. TURBT combined with bladder infusion Can control the progress of the disease ^[21]. This study shows that the histological grade of tumor has a certain influence on the progression of fear of disease in patients with bladder cancer after intravesical instillation chemotherapy. This may be related to the results of bladder biopsy in most patients before surgery. The doctor fully informs the condition, surgical plan and treatment method. And prognosis and so on. It is necessary to guide patients to correctly understand their own diseases, actively cooperate with the completion of postoperative follow-up, treatment,

and work together to reduce the fear of disease progression.

3.2.4 Gender

In patients with bladder cancer after surgery, the fear of disease progression has gender differences, and the score of women is significantly higher than that of men, which is consistent with the study by Gemmill et al. [22]. This requires gender differences in the treatment of bladder cancer patients, using relaxation therapy, cognitive behavioral therapy or mindfulness treatment to allow women to accept themselves, release stress, and actively participate in the self-monitoring and management of the disease.

3.2.5 Age

In the past decade or more, the incidence of bladder cancer has been increasing and rejuvenating year by year [23]. Studies have shown that age is one of the factors influencing the progression of fear of disease in breast cancer [24] and glioma [25]. This study also confirmed that age affects the fear of disease progression in patients with bladder cancer after surgery, and young patients have higher levels of fear. This may be because young patients have less stress-resistant ability than older patients and also bear different family social responsibilities. There are more concerns about the future. For patients of different ages, supportive expression therapy can be used to solve the current dilemmas and psychological problems, reducing or reducing their fear of disease progression.

4. Summary

Patients with intravesical instillation chemotherapy after bladder cancer have certain fear of disease progression. The main influencing factors include disease perception, tumor recurrence, tumor histological grade, gender and age. In the nursing work, targeted interventions should be implemented according to the main influencing factors to reduce the patient's fear level of disease progression to appropriate level, help patients to effectively cope with the problem, and become the driving force for self-discipline monitoring and care. This study only studied the early postoperative bladder infusion chemotherapy in patients with non-muscle invasive bladder cancer, and could not fully reflect the progress of fear disease progression in patients with bladder cancer after surgery. Longitudinal studies and interventions will be conducted in the future to promote the full recovery of patients.

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