

## THE QUALITY OF LIFE IN PATIENTS WITH KIDNEY CANCER

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### Abstract

*Background:* In Slovakia, the number of people suffering from the kidney cancer has been increasing, while being one of the most malignant urological tumors. In our study, we were focusing on the quality of life of people suffering from this disease.

*Goals:* The goal of study was to find out what impact the kidney carcinoma has on the patients' quality of life.

*Sample:* Our sample consists of patients with kidney carcinoma who are treated in selected urological clinics.

*Methods:* We chose a method of quantitative research. The data collection method was a combined questionnaire.

*Results:* The results of our study point to the general quality of life of patients suffering from a kidney carcinoma. We discovered the negative impact of this disease on the quality of professional and social life, as well as life in general. This disease also negatively affects the patients' family members.

*Conclusion:* The kidney carcinoma has a negative effect on the patients' quality of life. In order to increase the life quality, it is essential to focus on early diagnosis, a more effective treatment of this disease, proper edification and sufficient patients' awareness.

**Key words:** quality of life, kidney cancer

### 1 Epidemiology

In 2012, there were about 600 new cases of kidney cancer in Slovakia, 200 new cases in women and 400 new cases in men [1]. Malignant tumors of kidneys have 2-3 % ratio of all malignancies. They have 3rd place of urologic malignancies, the first place has the prostatic cancer and the second one has the cancer of vesica urinaria [2]. There is a growing trend of kidney cancer incidence in the world. The reasons is in better diagnostic methods, but the mortality has a growing trend, too [3].

### 2 Etiology

The etiology of kidney cancer is not known till now. Genetic factors are mentioned as a probably impact factors. Smoking is mentioned as risk factor because the incidence in smokers is 2-3 times higher as in other population, with potential responsibility to 27-37 % of kidney cancer in men and to 10-24% in women. Other factors can be environmental factors. The kidney cancer are more diagnosed in patients with chronic renal failure and in patients with polycystic kidneys [4].

### 3 Clinical features

The initial stadiums of kidney cancer are in mostly cases asymptomatic. This depends on retroperitoneal position. There were three basic symptoms in more developed stadiums in the past time: hematuria- about in 60% of all cases, lumbalgia- about 45%, and palpable tumor- about 35%. The nonspecific symptoms are: fever, nocturnal hidrosis, fatigue, loss of weight.

The more often paraneoplastic symptoms are: hypertension, polycythemia, anemia, thrombocytosis, etc. [4].

#### **4 Prognosis**

The most important factor for prognosis or time to survive is clinical stadium, expressed in TNM classification [5]. Patients in T1-2, N0, M0 stadium, e.g. tumor is localized only in kidney have 5-year survival in 70-90%, in T3 stadium- 30-70% and in T4 in 0-10%. The worse prognosis have the tumors bigger than 10 cm in T2 stadium or with invasion into renal veins.

#### **5 Diagnostics**

Diagnostic process has to lead to detect the presence of the tumor in kidney or in localization of kidney, then to the dimension, to the eventual tumor presence in vena cava inferior, to the metastatic presence in the regional lymphatic nodes, in the liver and other organs [1]. The physical examinations and laboratory exams are often not significant. In any way, the most important methods are imaging methods, e.g. ultrasonography, eventually doppler ultrasonography, or contrast enhanced ultrasonography than CT, MRI and nuclear medicine imaging methods [4].

#### **6 Therapy**

Therapy of kidney cancer depends of variable factors, especially disease stadium. Overall health status, comorbidities and age of patient [1]. Metastatic kidney cancer was mentioned as very refractory malignant disease with 100% mortality [6]. Nowadays, medicine has, of course some new technologies with better influence and results on treatment and surviving [7].

##### *Surgery*

Surgery is always treatment of choice. In this time, in solitary non metastatic carcinoma till 4 cm of size, the preferred method is partial nephrectomy, realized by laparoscopic or retroperitoneal approach [7]. In other cases is preferred radical nephrectomy [8]. The ablation methods are chosen for the patients in non-good health status with small tumors, e.g. less than. The last method is robotic assisted surgery, but it disadvantage is high price [7].

##### *Systematic adjunctive therapy*

There is no evidence of systematic adjunctive therapy benefit for patient after radical nephrectomy. Some clinical studies are realized with sunitinib and sorafenib in patients with high risk of relapsing carcinoma, but the results will be known in 2016.

##### *Systematic palliative therapy*

Systematic palliative therapy is indicated only in patients with generalized kidney cancer [4].

##### *Immunotherapy*

There is an evidence of prolonged survival in patients with radical nephrectomy treated by interferon [4].

##### *Radiotherapy*

The kidney cancer (adenocancer) is highly radiotherapy cancer. This therapy is usually indicated only in patients with high risk, e.g. with advanced tumors, with spreading in neighbor tissues or with metastases in lymphatic nodes [4].

## 7 Quantification of quality of life

Quality of life (QoL) is term expressing the subjective evaluation of man himself, of his level of satisfaction of his life, what depends dominantly of his possibility to be independent, to be able work, and it depend mostly of health. This relation is named quality of life related to health [9].

QoL can be measured by special or generic questionnaires. The results give us the possibility to measure not only the level of QoL but the impact of therapy, too [9].

## 8 Research

The goal of our research study was quantification of the QoL in patients with kidney cancer. We used our own developed questionnaire (Faculty of Health of Alexander Dubček University in Trenčín). The questionnaire was divided in six parties: A. Demographic. B. Clinical (B1- for physician, B2- for patient). C. Quality of life. D. Socio-economic. E. EQ-5D questionnaire. F. Symptoms of disease. The data from 79 patients were examined, what was 71.8% from all distributed questionnaires to out-patient clinics in Trenčín, Žilina and Martin. The descriptive statistics was used as statistical method.

The examined group consisted from 45 men and 34 women, with average of age 62.9 y., height - 169 cm and weight- 85.2. The nephrectomy was done in all 79 cases and so in 71 cases total nephrectomy, in 8 cases partial nephrectomy, in 3 cases was used biologic therapy, by none case was used radiotherapy. The TNM classification show the table 1.

**Table 1** TNM classification

| Stadium  | n  | %      |
|----------|----|--------|
| T1       | 41 | 51.90  |
| T2       | 34 | 43.04  |
| T3       | 4  | 5.06   |
| Together | 79 | 100.00 |
| N        | 3  | 3.80   |
| M        | 0  | 0.00   |

The average duration of disease was 44-45 months and average duration of symptoms before final diagnosis was about 4 months. Only approx. 14 % of diagnosis was done as goal targeted diagnosis by ultrasonography or CT. The level of in knowledgeability was signed as excellent in 12 cases, as good-46, as medium- 18, and as low- in 3 cases. The level of in health care was signed as excellent in 37 cases, as good-37, as medium- 3, and as low - in 3 cases.

## 9 Quality of life

Four questions were targeted on quality of life. The first one was oriented on present QoL, the second one on QoL in the time of diagnosis, the third one on QoL in the time without disease, and fourth one on QoL in the time of full health. The results are shown on the next tables.

**Table 2** Present QoL

|             | N  | Average | MAX | MIN | MEDIAN | SD   |
|-------------|----|---------|-----|-----|--------|------|
| Present QoL | 79 | 6.32    | 10  | 0   | 6      | 1.86 |

**Table 3** QoL in the time of diagnosis

|                              | N  | Average | MAX | MIN | MEDIAN | SD   |
|------------------------------|----|---------|-----|-----|--------|------|
| QoL in the time of diagnosis | 79 | 5.15    | 9   | 0   | 5      | 2.26 |

**Table 4** QoL in the time without disease

|                                 | N  | Average | MAX | MIN | MEDIAN | SD   |
|---------------------------------|----|---------|-----|-----|--------|------|
| QoL in the time without disease | 79 | 7.86    | 10  | 2   | 9      | 1.92 |

**Table 5** QoL in the time of full health

|                                | N  | Average | MAX | MIN | MEDIAN | SD   |
|--------------------------------|----|---------|-----|-----|--------|------|
| QoL in the time of full health | 79 | 8.82    | 10  | 2   | 9      | 1.45 |

## 10 Ability to work

Four questions were targeted on ability to work (AtW). The first one was oriented on present AtW, the second one on AtW in the time of diagnosis, the third one on AtW in the time without disease, and fourth one on AtW in the time of full health. The results are shown on the next tables.

**Table 6** Present ability to work

|             | N  | Average | MAX | MIN | MEDIAN | SD   |
|-------------|----|---------|-----|-----|--------|------|
| Present AtW | 79 | 6.02    | 10  | 0   | 7      | 2.51 |

**Table 7** Ability to work in the time of diagnosis

|                              | N  | Average | MAX | MIN | MEDIAN | SD   |
|------------------------------|----|---------|-----|-----|--------|------|
| AtW in the time of diagnosis | 79 | 5.44    | 10  | 0   | 6      | 2.69 |

**Table 8** Ability to work in the time without disease

|                                 | N  | Average | MAX | MIN | MEDIAN | SD   |
|---------------------------------|----|---------|-----|-----|--------|------|
| AtW in the time without disease | 79 | 8.25    | 10  | 4   | 9      | 1.37 |

**Table 9** Ability to work in the time of full health

|                                | N  | Average | MAX | MIN | MEDIAN | SD   |
|--------------------------------|----|---------|-----|-----|--------|------|
| AtW in the time of full health | 79 | 9.05    | 10  | 2   | 9      | 1.35 |

## 11 Conclusions

1. Kidney cancer is oncologic disease with a strong impact on quality of life and ability to work, too.
2. QoL and AtW have significant difference ( $p < 0.05$ ) in patients with kidney cancer as in the time of diagnosis and also in present time (after the treatment) opposite to the time without disease or in the time of full health.
3. QoL and AtW have a strong correlation in all examined status of health e.g. quality of health is strong depended on ability to work.

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