

IMPACT OF CISPLATIN BASE CHEMOTERAPY ON QUALITY OF LIFE IN INDONESIAN PATIENTS WITH CERVICAL CANCER

Suwendar, Department of Pharmacy, Faculty of Mathematics and Natural Science, Jalan Rangka Malela No. 1, Bandung 40116, Indonesia, suwendarronnie@yahoo.com; **Achmad Fudholi**, Faculty of Pharmacy, Universitas Gadjah Mada, Sekip Utara Yogyakarta; **Tri Murti Andayani**, Faculty of Pharmacy, Universitas Gadjah Mada, Sekip Utara Yogyakarta; **Herri S. Sastramihardja**, Faculty of Medicine Universitas Padjajaran,

INTRODUCTION

Cervical cancer is the most common malignant cancer of the female reproductive organs and affects them for a long period of time. If someone were suffering from cervical cancer, then the quality of life will decline. This has been proven by research in cancer patients in Dr. Sardjito Hospital including cervical cancer [Perwitasari et al, 2011]. Not only the effect of cervical cancer, the choice of chemotherapy regimen will also affect the quality of life (humanistic outcome) of the patients. There are a variety of chemotherapy regimens for cervical cancer. Cisplatin-based chemotherapy regimen is recommended by the NCCN (National Comprehensive Cancer Network) and the Ministry of Health of Republic of Indonesia. Nevertheless humanistic outcome research of these regimens are still lacking. This study aims to evaluate the quality of life of cervical cancer patients in Dr. Hasan Sadikin Hospital Bandung were treated with cisplatin base chemotherapy using the EQ-5D questionnaire.

METHODS

The research was an analytical non-experimental study using prospective data collection techniques. Study was conducted by interviewing cervical cancer patients were treated three cycles of cisplatin base chemotherapy using the EQ-5D (EuroQoL five dimensions) questionnaire. Percentage of patients who had problems in each dimension of EQ-5D as well as EQ-5D VAS dan EQ-5D index score (utility) were calculated. EQ-5D VAS and EQ-5D index score was processed statistically using t-test ($p < 0.05$) or Wilcoxon test ($p < 0.05$) depend on the normality of data distribution to see if there were significant condition changes before and after chemotherapy.

RESULT AND DISCUSSION

Sixty one patients were recruited in this study from June 2015 to January 2016. The average of age of patients was 46.8 ± 8.1 years, and most patients were in age interval over 45 years (77% of all study subjects). The education level of the patients was mostly elementary school graduates (44.3%). It

caused most of patients must be accompanied at the time of filling out the questionnaire or by interview. Based on the severity, most patients were in stage II (47.5%). Most of the patients (39.3%) had a comorbid. Comorbid most common was anemia (78.7%).

Patients' Response

Based on Table 1, before the patients received chemotherapy dimensions (problem) with the highest frequency (MP+HP) was a sense of pain (96.7%), followed by ability to walk (90.2%), anxiety / depression (85.5%), usual activities (67.2%), and self-care (37.9%). The percentage of patients who have problems at five dimensions in EQ-5D questionnaire decreased after had been treated with three cycles of cisplatin base chemotherapy. The decreased could occur because of the use of medication for the treatment of side effects, good service during the treatment and good education to patients and their families prior to therapy [Harrison et al, 2011].

Utility Value

According to Table 2, in patients with stage I after chemotherapy, the utility value increased significantly ($p = 0.00$). It showed an increase in the quality of life of patients after receiving chemotherapy. Similarly, in patients with stage II and III, utility increased significantly compared to prior chemotherapy with p value equal to at stage I, respectively $p = 0.00$. Whereas in stage IV patients, despite an increase in utility value after chemotherapy, but was not significantly different ($p = 0.10$). This is due to the severity of stage IV disease in patients with more severe so that quality of life was worse than any other stadium, either. The above conditions were in line with the results of research in the department of Dr. Sardjito Yogyakarta [Perwitasari et al, 2011]. The same results had been founded in China [Zhao et al, 2014]. Based on this research, there was an increasing trend of utility after chemotherapy, although in stage IV was not significant. In other words, the quality of life of post-chemotherapy patients in stages I to IV could be maintained.

Value Analogue Scale

Table 3 lists the EQ-5D value analogue scale data that represent patients' quality of life pre-and post-chemotherapy. After three cycles of chemotherapy, EQ-5D VAS in patients with stage I was significantly increased (p = 0.00). Similarly, after chemotherapy, EQ-5D VAS in patients with stage II (p = 0.00) and III (p = 0.00) increased significantly too. In stage IV, utility value increased, but not significantly (p=0.36). This was due to the severity of stage IV disease in patients with more severe so that quality of life was worse than other stages. According to the research on cervical cancer patients in China, the result showed that the VAS value slightly decreased one month after chemotherapy and further increased in the three and six months after chemotherapy [Zhao et al, 2014].

Although after chemotherapy EQ-5D VAS in patients with stage IV did not increase significantly, but the value did not decrease. No decrease in EQ - 5D VAS

in all stages observed in this study, indicating that three cycles of chemotherapy did not decrease the quality of life. This is due to the use of drugs to overcome the side effects of chemotherapy [Harrison et al, 2011].

Table 3. VAS of patients with cervical cancer pre- and post- chemotherapy

| Stage | n | Visual Analogue Scale | | | | p |
|-------|----|-----------------------|------|---------------------|------|-------------------|
| | | Pre - Chemotherapy | | Post - Chemotherapy | | |
| | | mean | SD | mean | SD | |
| I | 8 | 56.3 | 13.0 | 75.6 | 6.2 | 0.00 ^a |
| II | 29 | 48.1 | 12.8 | 73.8 | 10.3 | 0.00 ^b |
| III | 21 | 40.5 | 11.2 | 61.1 | 16.5 | 0.00 ^b |
| IV | 3 | 33.3 | 15.3 | 48.3 | 27.5 | 0.36 ^a |

n= number of patients; ^a Wilcoxon test (p<0,05); ^b t-test (p<0,05); SD= Standard Deviation

Table 1. Patient's response to five dimension of EQ-5D questionnaire

| Dimension | Pre-chemotherapy | | | | | | Post-chemotherapy | | | | | |
|----------------------|------------------|------|----|------|----|------|-------------------|------|----|------|----|-----|
| | NP | | MP | | HP | | NP | | MP | | HP | |
| | n | % | n | % | n | % | n | % | n | % | n | % |
| Ability to walk/move | 6 | 9.8 | 43 | 70.5 | 12 | 19.7 | 10 | 16.4 | 46 | 75.4 | 5 | 8.2 |
| Self care | 44 | 72.1 | 10 | 16.4 | 7 | 11.5 | 46 | 75.4 | 10 | 1.4 | 5 | 8.2 |
| Usual activities | 20 | 32.8 | 27 | 44.3 | 14 | 22.9 | 30 | 49.2 | 25 | 41.0 | 6 | 9.8 |
| Pain / discomfort | 2 | 3.3 | 41 | 67.2 | 18 | 29.5 | 21 | 34.4 | 36 | 59.0 | 4 | 6.6 |
| Anxiety/depression | 9 | 14.5 | 38 | 62.9 | 14 | 22.6 | 55 | 90.2 | 6 | 9.8 | 0 | 0 |

NP=No Problem; MP=Medium Problem; HP=High Problem

Table 2. Index Value Of Health Condition Of Patients With Cervical Cancer Pre- And Post- Chemotherapy

| Stage | n | Utility Index | | | | p |
|-------|----|--------------------|------|---------------------|------|-------------------|
| | | Pre - Chemotherapy | | Post - Chemotherapy | | |
| | | mean | SD | mean | SD | |
| I | 8 | 0.50 | 0.20 | 0.89 | 0.10 | 0.00 ^a |
| II | 29 | 0.43 | 0.21 | 0.81 | 0.17 | 0.00 ^b |
| III | 21 | 0.07 | 0.46 | 0.63 | 0.31 | 0.00 ^b |
| IV | 3 | -0.03 | 0.59 | 0.44 | 0.55 | 0.10 ^a |

n= number patients; ^a Wilcoxon test (p<0.05); ^b t-test (p<0.05). SD=Standard Deviation

CONCLUSION

The results of patients' quality of life observation showed that the percentage of patients who have problems at five dimensions in EQ-5D questionnaire decreased after three cycles of cisplatin base chemotherapy. According to the statistical

calculation, utility values and value analogue scale of patients at stage I, II and III, increased and showed significant improvement (p<0,05) except stage IV.

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