

The Approaches in the Care for Terminal Cancer Patients in Radiotherapy and Oncology Clinic, Rijeka University Hospital Center

Renata Dobrila-Dintinjana¹, Arnela Redzović¹, Jana Perić¹ and Duška Petranović²

¹ University of Rijeka, Rijeka University Hospital Center, Department of Radiotherapy and Oncology Clinic, Rijeka, Croatia

² University of Rijeka, Rijeka University Hospital Center, Internal Clinic, Rijeka, Croatia

ABSTRACT

We sought to determine the proportion of our admitted patients in terminal phase of illness who received some kind of active oncological therapy. We conducted a pilot study on the records of patients who died in the University Hospital. We assessed the percentage of mortality, a therapeutic approach in terms of treating the underlying disease, and access to palliative treatment. Of 2097 patients hospitalized in the UHC Rijeka Department of Radiation Therapy and Oncology during 2010 and 2011, 44 pts died which accounts for 2.1%. The most common primary sites of cancer in patients who died in our Department were the lungs and then the breast. Ten (22.7%) patients were admitted exclusively to receive palliative care, while others (34–77.3%) were admitted for planned active chemo- and/or radiotherapy administration. Within three months before death, 18 (40.9%) patients underwent chemotherapy treatment. The number of patients hospitalized due to providing palliative care is extremely low, which could indicate a good supply of out-patient treatment of cancer patients in the terminal stage of the disease. However, concerned about the high percentage of patients who tried to provide oncology treatments in the three months before his death. The percentages referred to in their daily work is still guided by the principles of healing »to the end« and thus we plunge into the realm disthanasia.

Key words: palliative care, chemotherapy, radiotherapy, end of life, disthanasia

Introduction

The number of patients receiving chemotherapy at the end of their life is increasing¹. However, this raises questions over the appropriateness of their treatment, therapy toxicity to such patients, and finally costs to society. It has been shown that the U.S. spend millions of dollars more on chemotherapy treatment for cancer patients than on therapies for treating cardiovascular or diabetes diseases^{2–4}. According to ESMO reports from 2005, the proportion of patients starting a chemotherapy regimen within 3 months and 1 month before death was 67% and 25%, respectively⁵. The administration of chemotherapy at the end of life was especially frequent in patients with pancreatic, breast and ovarian cancer⁵. According to some earlier records, chemotherapy in the last 3 months of life was most frequently given to patients with hematologic cancers (45%)⁶. The ESMO reports for 2008–2009. showed the frequency of chemotherapy use

within 2 months before death to be as high as 48% and within 1 month before death no less than 29%⁶.

The study from 2006 showed that 39%, 28% and 21% of patients with non-small lung cancer received first-line, second-line, and third-line chemotherapy, respectively^{3,7}. This reveals a large proportion, i.e. no less than 43% of patients receiving chemotherapy within 1 month before death⁷, while 20% of them receive chemotherapy within 2 weeks before death⁷. Other literature data, however, show a smaller proportion of patients receiving chemotherapy within 3 months before death, of 11, 26 and 33%^{4,6}. Both clinicians and researchers conclude that providing chemotherapy to cancer patients at the end of life is after all a priority for patients of younger age and for chemo-sensitive tumors⁷. It has also been shown that a large proportion, ranging from 1/3 to no less than a half

of patients die in the hospital, which is partly due to the provision of chemotherapy that prolongs life without a desired quality, and even exerts harmful effects and brings terminal cancer patients into such a state that they cannot be discharged from hospital^{8,9}. Cyclophosphamide, doxorubicin and vincristine lead to prolonged inpatient stays and the development of sepsis in already immuno-compromised patients¹⁰. Although it has been found that chemotherapy has no value for elderly patients and those with advanced metastatic disease, the percentage of 6–10% of patients receiving chemotherapy in their last week of life still persists¹¹. The ESMO data from 2005 showed that 24% of patients got admitted to hospital due to chemotherapy toxicity⁵. However, unfavorable patient outcomes were also found among palliative chemotherapy recipients^{12,13}. In addition, biotherapy given to terminal patients was shown not to differ from chemotherapy given to such patients⁷. More detailed communication with patients is therefore needed to inform them about the consequences of chemotherapy treatments, outcome following the administration, and the prognosis.

Palliative radiation therapy is aimed at reducing symptoms of the disease and alleviating patient's suffering. Since the aim of palliative radiation is alleviation of symptoms (pain, bleeding control, obstruction reduction, reduction of a tumor mass that causes symptoms, etc.) rather than a complete destruction of the tumor, the dose and the number of fractions are smaller compared to radical radiation therapy. Early and late side effects of radiation will thus be avoided in the population of patients having a shorter life expectancy. Palliative radiotherapy is most often used in patients with bone metastases to alleviate pain, and then in patients with advanced lung cancer and inoperable cancer of the head, neck, pelvis, etc.¹⁴. Palliative radiation treatment of brain metastases is usually indicated when pain and brain edema occurs and a short-course radiation regimen is used. There are, however, cases where palliative radiotherapy does not provide much benefit and in the process of decision-making, the decision must be well documented with regard to patient's general condition and expected survival^{14,15}.

The aim of our study was to analyze approach to cancer patients with end-stage disease at the Radiotherapy and Oncology Clinic, University Hospital Rijeka, and to correlate our results (approach) to the results from elsewhere in the world.

Material and Methods

A pilot study involving medical records of patients who died in our Clinic over a 2-year period (2010–2011) was carried out. The study included analysis of the mortality rate and therapeutic approaches in cancer patients with end-stage disease.

Results

Of 2097 patients hospitalized in the Radiotherapy and Oncology Clinic, Rijeka University Hospital Center dur-

ing 2010 and 2011, 44 pts died which accounts for 2.1% of all hospitalized patients. Among descendents, there were 11 (25%) younger than 60 years of age, and 33 (75%) were older than 60 years of age. There were 26 (59%) male and 18 (41%) female. The most common primary sites of cancer were the lungs (40.1% of all patients), and the breast. Ten (22.7%) patients were admitted exclusively to receive palliative care, while others (34–77.3%) were admitted for planned active chemo- and/or radiotherapy administration. Within three months before death, 18 (40.9%) patients underwent chemotherapy treatment, and 6 patients received chemo and radiotherapy. The most commonly used chemotherapy regimen was the PE regimen (cisplatin + etoposide). These patients were not found to be either of younger age, or that there were any difference by sex. In the preceding 3 months, 13 (29.5%) patients received an active chemotherapy, and 2 patients received biotherapy (erlotinib, sunitinib). After chemotherapy administration within 3 months before death, 3 patients were admitted to hospital for symptoms of febrile neutropenia.

In a total of 15 (34.1%) patients, planned palliative radiotherapy was either initiated or completed. Most commonly, palliative radiation treatment was given to patients with lung cancers for the purpose of reducing their dyspnea. Palliative radiation therapy over the CNS region ranked second in the frequency of use for patients with confirmed brain metastases with or without accompanying neurologic symptoms. In our Department, administration of pain relieving palliative radiotherapy to patients with confirmed bone metastases ranked third in frequency.

Conclusion

Over 11 million new cancer cases are diagnosed each year worldwide¹⁶. In about 50% of patients the disease has already spread at the time of diagnosis¹⁷. According to the World Health Organization, there were 7.6 million cancer deaths (13% of all deaths) worldwide in 2008¹⁶. Most commonly reported are deaths from cancers of the lung, pancreas, stomach, liver, breast and prostate^{16,18}. The beginning of life as well as dying and death are issues of primary interest to every society. The increasing daily use of state-of-the-art technology for the severely ill or patients at the end of life is the topic of medical, philosophical, theological, legal, sociological, bioethical and other debates among both numerous professionals and public media as well¹⁹. The task of modern oncology is not only to prolong life of end-stage patients but also to improve their quality of life (QoL) and allow, if it's unavoidable, for dignified dying. The use of palliative chemo- and radiotherapy has its indications, in emollient painful symptoms and increasing QoL; otherwise it should be discontinued when disease progresses into terminal stadium (about three months before an expected death). Chemotherapy can produce serious toxicity and therefore its administration affects the QoL, and may also cause premature death¹³.

The percentage of patients who died in our Department falls within the expected range (data from the developed countries)¹⁸. The number of patients admitted to receive palliative care only is notably small which might reflect good outpatient provision of care to cancer patients in the terminal stage of the disease. However, there are concerns about a large percentage of patients for whom anticancer therapy was provided in the last three months before death, which occasionally lead to the development of febrile neutropenia. In a study carried out in patients with hormone-resistant prostate cancer 32% of patients received chemotherapy within 3 months before death, and adverse events occurred in 25% of patients (neutropenia 18.3%, nausea and vomiting 18%, and febrile neutropenia 13.6%)¹⁹. Furthermore, it was shown that the use of therapy is appropriate for patients in good general condition (according to the WHO's guidelines, not for patients with performance status 3 and 4), while there is insufficient evidence of the use of chemotherapy for elderly patients (70–75 years of age)²⁰. The necessity of caution and good assessment to whom and when to administer any platinum derivative has been particularly pointed out²⁰.

The percentage shows that in everyday practice we are still guided by the principles of treatment 'to the end' and thus we enter the field of dysthanasia. Etymologically, dysthanasia means the undue prolongation of patient's agony, suffering and death. With perseverance in therapy with multiple medications and use of sophisticated technology, when there is no hope for cure, we can prolong a patient's life, without providing a benefit to the patient, but increasing and prolonging the patient's suffering^{21,22}. Sometimes it is very hard to give exact prognosis, despite assessment of the current spread of the disease. The doctors, however, must approximately assess when a patient reaches the end stage of the disease to replace the planned short course and aggressive chemotherapy treatment with best supportive care^{15,21}. Supportive and palliative care controls symptoms that are not specific as to etiology of the disease. They may be of

organic, psychological, psychosocial and spiritual origin. During last days of life, characteristic symptoms usually occur including dyspnea, pain, nausea, vomiting, anxiety and restlessness^{15,22}.

The most common signs and symptoms reported in patients who died in our Clinic included pain, immobility, constipation, anemia, fever and nutritional deficiency. Those are classical signs and symptoms of cancer patients with end stage disease, but the majority of them, as obvious, received active anticancer therapy²³.

Over the past decade, family members play an increasing role when making decisions to withhold active treatment. Disagreements between physicians and the family often occur during the decision-making process. Sometimes, this may even end up in court. Patients and more often, their families do not understand the disease process and have unrealistic expectations or believe that any treatment at the end-stage disease (chemotherapy at the end of life) is better than receiving none and simply waiting for death. Anticancer treatments thus are used to give false hope that it is not all over yet and that death will not come soon. An open and honest conversation between the doctor, who is not merely a good clinician but also one educated in bioethics, and the family will allow for the best and timely decision-making to withdraw life-sustaining therapy. Informed consent should include a fair, both culturally and religiously sensitive communication that provides an explanation of practices for withdrawal of life support and information about life expectancy. The ultimate goal is to reduce mental and physical suffering of the patient (if he or she is conscious), and the family to a minimum, and to relieve discomforts^{21,23,24}.

However, death education is still not included in the medical school curriculum, and there is a sort of void both amongst health care professionals and the lay public, since the knowledge on the rights of the dying is still not required from anyone, for any discipline. Although each of us will inevitably die, only a few of us get ready for death or make preparations to die the right way.

REFERENCES

1. EARLE CA, NEVILLE BA, LANDRUM MB, AYANIAN JZ, BLOCK SD, WEEKS JC, *Journal of Clinical Oncology*, 22 Suppl (2004).
2. CHASTEK B, HARLEY CR, KALLICH JD, NEWCOMER LN, PAOLI JC, TEITELBAUM A, *J Clin Oncol*, 29 (2011).
3. JIRILLO A, BORTOLAMI A, IADICICCO G, DI LENARDO E, DE SALVO GL, MONFARDINI S, BERTO P, *J Clin Oncol*, 23 Suppl. (2005).
4. CALABRESE D, *Am J Manag Care*. Suppl 15 (2011).
5. BRAGA S, MIRANDA A, DIAS M, FONSECA R, PASSOS-COELHO JL, FERNANDES A, COSTA JD, MOREIRA A, *J Clin Oncol*, 23 Suppl. (2005).
6. EMANUEL EJ, YOUNG-XU Y, ASH A, GAZELLE G, LEVINSKY N, MOSKOWITZ M, *Proc Am Soc Clin Oncol* 20 (2001).
7. COEFFIC DE, CASTILLO C, SEBBAN C, GARNIER C, MENARD I, BRUN O, DUPUY L, FRIC D, LEYRONNAS C, ASSOULINE D, *J Clin Oncol*, 28 Suppl. (2010).
8. MURILLO JR, KOELLER J, *Oncologist*, 11 (2006).
9. MORISHIMA T, LEE J, OTSUBO T, IKAI H, IMANAKA Y, *J Palliat Med*, 2012.
10. BRETTHAUER M, KALAGER M, *Br J Surg*, 100 (2013).
11. NÁPPÁ U, LINDQVIST O, RASMUSSEN BH, AXELSSON B, *Ann Oncol*, 22 (2011).
12. BUITING HM, RURUP ML, WIJSBEK H, VAN ZUYLEN L, DEN HARTOGH G, *BMJ*, 342 (2011). DOI: 10.1136/bmj.d1933.
13. EMANUEL EJ, YOUNG-XU Y, LEVINSKY NG, GAZELLE G, SAYNINA O, ASH AS, *Ann Intern Med*, 138 (2003).
14. ASTRO publishes palliative radiotherapy for bone metastases guideline 2011 Available from: URL: <http://ecancer.org/news/1573>.
15. ŠAMIJA M, NEMET D, *Potporno i palijativno liječenje onkoloških bolesnika In: (Medicinska Naklada, Zagreb, 2010)*.
16. CANCER PREVALENCE: How Many People Have Cancer? What is cancer prevalence? 2011 Available from: URL: www.cancer.org/Cancer/CancerBasics/cancer-prevalence.
17. ALGRA AM, ROTHWELL PM, *Lancet Oncol*, 13 (2012).
18. KOHLER BA, WARD E, MCCARTHY BJ, SCHYMURA MJ, RIES LA, EHEMAN C, JEMAL A, ANDERSON RN, AJANI UA, EDWARDS BK, *J Nat Cancer Institute*, 103 (2011).
19. ZAGHLOUL HA, *Am J Hosp Palliat Care*, 29 (2012).
20. SÖRENSON S, GLIMELIUS B, NYGREN P, SBU-group. Swedish Council of Technology Assessment in Health Care. *Acta Oncol*, 40 (2001).
21. FRKOVIĆ A, *Gynaecol Perinatol*, 16 (2007).
22. DAVIDSON PM, MACDONALD PS, NEWTON PJ, CURROW DC, *Aust Fam Physician*, 19 (2010).
23. GIORGI F, BASCIONI R, BRUGNI M, SAFI M, BERARDI R, GIUSTINI L, DE SIGNORIBUS G, SILVA R, CASCINU S, *J Clin*

Oncol, 22 Suppl. 15 (2004). — 24. MATSUYAMA R, REDDY S, SMITH TJ, J Clin Oncol, 24 (2006).

R. Dobrila-Dintinjana

*University of Rijeka, Rijeka University Hospital Center, Radiotherapy and Oncology Clinic, Rijeka, Croatia
e-mail: renatadobriila@windowslive.com*

PRISTUP ZBRINJAVANJA TERMINALNIH ONKOLOŠKIH BOLESNIKA NA KLINICI ZA RADIOTERAPIJU I ONKOLOGIJU KBC RIJEKA

S A Ž E T A K

Cilj rada bio je ustanoviti pristup onkološkim bolesnicima u terminalnoj fazi bolesti na Klinici za radioterapiju i onkologiju KBC Rijeka. Proveli smo pilot istraživanje na dokumentaciji bolesnika koji su preminuli na našoj Klinici u razdoblju od 2010–2011. Ispitali smo postotak mortaliteta, terapijski pristup u smislu liječenja osnovne bolesti kao i pristup palijativnom liječenju. Unutar navedenog razdoblja hospitalizirali smo 2097 pacijanata od čega je njih 44 preminulo što čini 2,1%. Najučestalije primarno sjelo tumora u umrlih bolesnika na našoj Klinici, bio je karcinom pluća, a potom karcinom dojke. Radi primjene isključivo palijativne skrbi hospitalizirano je 6 (22,7%) bolesnika, dok smo ostale bolesnike (34–77,3%) hospitalizirali predmijevajući primjenu aktivne kemo i/ili radioterapije. U razdoblju od tri mjeseca pred smrtni ishod, 18 (40,9%) bolesnika je primilo aktivnu kemoterapiju. Broj bolesnika hospitaliziranih poradi pružanja palijativne skrbi je izuzetno malen, što bi moglo upućivati na dobru vanbolničku opskrbu onkoloških bolesnika u terminalnoj fazi bolesti. Međutim, zabrinjava visoki postotak bolesnika kojima se pokušala pružiti onkološka terapija u razdoblju od tri mjeseca prije smrti. Navedeni postotak upućuje da se u svakodnevnom radu još uvijek rukovodimo principima liječenja »do kraja« i time zalazimo u područje distanzije.