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Original Article

Management of Gynecological Cancer Patients Older than 70 Years of Age☆

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SUMMARY

Background: The incidence of geriatric oncology patients has not been studied very well. A retrospective study of the incidence of geriatric patients with malignant gynecological disease is therefore presented.
Patients and methods: From 1982 until 2006, a total of 8377 patients with gynecological malignancies were treated in our clinic, 834 (10%) of whom were aged ≥70 years. In the analysis, annual reports of the clinic were used and the personal histories of patients aged ≥70 years (834 patients) were analyzed. The statistical method used was Fisher's exact test.
Results: The number of patients aged 70–74 years, 75–79 years, and ≥80 years were 528 (63.3%), 215 (25.8%), and 91 (10.9%), respectively. Endometrial cancer was detected in 240 cases (28.77%), ovarian cancer in 192 cases (23.02%), vulvar cancer in 180 cases (21.58%), cervical cancer in 169 cases (20.26%), uterine sarcoma in 37 cases (4.43%), and vaginal cancer in 16 cases (1.91%). The comorbidities included were hypertension, diabetes, cardiovascular disease, pulmonary disease, and cerebrovascular disease. Operation was performed in 655 cases (78%), radiation therapy only in 152 cases (18%), and chemotherapy only in 27 cases (3%). In the present study, the in-hospital complication rate occurred in 78 cases (9.3%). In the group of patients aged >80 years, the in-hospital complication rate occurred in 20 cases (21%). No case of death related to surgery occurred.
Conclusion: The key in choosing the treatment therapy is the localization and the stage of the cancer, whereas patient age and different chronic diseases are relevant to the treatment strategies used. The cases of geriatric gynecological malignancies were treated following the same guidelines used for younger patients. An increase in elderly surgical cancer workload is inevitable in the coming years. The special needs of elderly cancer patients should be taken into consideration prior to treatment planning.

1. Introduction

The definition of “elderly” is controversial. Functional deterioration is more frequently apparent beyond the age of 70 years[1]. No two elderly individuals are the same: they differ in their physical fitness, cognitive level, presence of comorbidities, quality of life, and life expectations. Surprisingly, few objective instruments have been made available to categorize age-related preexisting chronic illness, age-related functional physical decline, or preoperative risk status[1–3]. At the end of the 19th century, the average life expectancy was 40 years, but it has now doubled to 81 years of expected survival for females and 76 years for males in the United Kingdom. A 60-year-old individual is now expected to survive for 24 years and an 80-year-old is expected to survive for 6 years in Western Europe[4]. By contrast, the risk of developing cancer increases with age. According to the Cancer Incidence, Mortality and Prevalence in the European Union 90 data, 58% of cancers, and 69% of cancer deaths, affect individuals aged 65 years or more. Advanced age is associated with a significant number of malignant diseases. Despite the increased interest in treatment of senior cancer patients, older patients are much too often undertreated[5]. The incidence of ovarian carcinoma increases with advancing age, peaking during the 7th decade of life and remaining elevated until the age of 80 years[6]. Advanced age is associated with a significantly worse prognosis for endometrial carcinoma patients. It appears that with advancing age, endometrial carcinoma exhibits a more aggressive tumor

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phenotype, characterized by mutant p53 expression and down-regulation of E-cadherin expression, and this, in turn, results in tumors being diagnosed at a more advanced stage in older patients[7]. Studies have demonstrated that age is a risk factor that affects surgical outcome, and surgery is infrequently offered to older cancer patients because of the increased risk of surgical morbidity and mortality[8]. Thus, the decision to perform surgery on older patients often presents as an ethical dilemma[9]. During the past decade, oncologists and geriatricians have begun to work together to integrate the principles of geriatrics into oncology care. The increasing use of a comprehensive geriatric assessment (CGA) is one example of this effort. A CGA includes an evaluation of an older individual's functional status, comorbid medical conditions, cognition, nutritional status, psychological state, and social support, as well as a review of the patient's medications. Growing evidence demonstrates that the variables examined in a CGA can predict morbidity and mortality in older patients with cancer, and uncover problems relevant to cancer care that would otherwise go unrecognized[10]. A number of studies have demonstrated that in highly functional elderly patients without comorbidities, postoperative clinical outcomes are similar to those of younger patients[11,12]; however, other research has shown that older cancer patients probably receive less curative treatment compared with younger patients[13].

The aim of this study is to determine the impact of comorbidities on surgical complications and the mortality of older gynecological cancer patients, with the hope of providing more information on surgical risk that could be used to evaluate patients with different chronic diseases, especially in cases of patients aged >80 years.

2. Patients and methods

From 1982 until 2006 in our clinic (Department of Gynecological Oncology at the National Oncology Center, Sofia, Bulgaria), a total of 8377 patients with gynecological malignancies according to the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)[14] (C51—C56) and 1198 patients with carcinoma *in situ* (D06) were treated. Overall, 834 (10%) of all patients with gynecological malignancies were aged $\geq$ 70 years. The comorbidities included in the present study were hypertension, diabetes, cardiovascular disease, pulmonary disease, and cerebrovascular disease. The principal and secondary diagnoses in preoperative claims data were used to determine whether a patient had any of these diseases prior to surgery. The diagnosis of a comorbidity was defined according to the ICD-10[14], code for hypertension (I10—I15), cardiovascular disease (I20—I 25, I26—I28, I30—I52), cerebrovascular disease (I60—I69), venous disease (I80—I89), pulmonary disease (J40—J47), and diabetes (E10—E14). All patients were submitted to the Cancer Committee of the National Oncology Center, where therapeutic tactics were chosen, according to medical standards and ethical standards and procedures for research with human beings. All patients signed informed consent to participate in the proposed treatment. The study is retrospective and was approved by the ethical committee of the National Oncology Center, Sofia, Bulgaria. Preoperatively, all patients were assessed by an anesthesiologist to determine their physical status and operative risk using the American Society of Anesthesiologists (ASA) scoring system[15]. In some cases, the operation was contraindicated because of cardiovascular, pulmonary, or cerebral diseases.

2.1. Statistical method

Fisher's exact test was used for calculating the statistical significance.

The test was used to determine whether the outcome of a study would lead to a rejection of the null hypothesis based on a prespecified low probability threshold called p values, which can help an investigator decide if a result contains sufficient information to cast doubt on the null hypothesis. The p values are often coupled to a significance or alpha (α) level, which is also set ahead of time, usually at 0.05 (5%), such as 0.1 or 0.0001. Thus, if a p value was found to be less, the null hypothesis would be rejected[16].

3. Results

Of the 834 patients, 528 patients (63.3%) were aged 70—74 years, 215 patients (25.8%) were aged 75—79 years, and 91 patients (10.9%) were aged $\geq$ 80 years. The highest number of patients consisted of individuals with endometrial cancer—240 cases. Ovarian cancer was detected in 192 cases and vulvar cancer in 180 cases. Cervical cancer was diagnosed in 169 cases, uterine sarcoma in 37 cases, and vaginal cancer in 16 cases (Table 1). Operation and radiation were used in cases of endometrial, cervical, and vulvar cancers. In 144 cases of endometrial cancer, total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed, and in 26 cases radical abdominal hysterectomies with lymph node dissections with postoperative radiation were performed. In 70 patients with endometrial cancer, radiation therapy alone was used. In 115 patients with cervical cancer, radical abdominal hysterectomies with lymph node dissections and postoperative radiation were performed. The rest (54 patients with cervical cancer) were treated with radiation therapy only. In 123 cases of vulvar cancer, vulvectomy with lymph node dissections was conducted, and in 45 cases a vulvectomy only and postoperative radiation were performed. In 12 cases of vulvar cancer, radiation therapy only was used. The patients with vaginal cancer were treated with radiation therapy only. In cases of ovarian cancer, operation and chemotherapy were performed. In 102 cases of ovarian cancer, total abdominal hysterectomy with bilateral salpingo-oophorectomies and omentectomy with postoperative chemotherapy were performed. In 65 cases of ovarian cancer postoperative chemotherapy were performed. Twenty-five patients with ovarian cancer were treated with chemotherapy only. In 35 cases of uterine sarcoma, total abdominal hysterectomy with bilateral salpingo-oophorectomies with postoperative radiation was performed. In two cases of uterine sarcoma, chemotherapy only was used.

In the present study, the in-hospital complication rate for all 834 patients was 9.3%. In the group of patients aged >80 years, the in-hospital complication rate was 21%. Table 1 shows the patient characteristics and in-hospital complication rate. Thus, for the age group 70—74 years there are 528 patients, comprising 63% of all cases (834). In 27 patients aged 70—74 years, which represents 5% of all patients in this age group (528 cases), in-hospital complication was present.

The ASA physical status classification was as follows: 425/834 (51%) class II, 230/834 (28%) class III, and 179/834 (21%) class IV. Operation was performed in 655/834 cases (78%), radiation therapy only in 152/834 cases (18%), and chemotherapy only in 27/834 cases (3%; Table 2). Breakdown of the procedures performed shows 281 total abdominal hysterectomy with bilateral salpingo-oophorectomies (in 102 cases with omentectomy), 141 radical abdominal hysterectomies with lymph node dissections, 65 tumor reduced surgery (bilateral salpingo-oophorectomies with omentectomy), 123 vulvectomy with lymph node dissections, and 45 vulvectomy only. In our series, the complication rate was only 9.3%, and there was no death in the postoperative period. Table 3 shows the in-hospital complications in relation to comorbidities. Significant trends were found at the level of $p < 0.05$, which is consistent with the methods description[16].