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DESCRIPTIVE ANALYSIS OF PATIENTS WITH MALIGNANT OVARIAN NEOPLASMS APPROACHED BY THE ONCOLOGICAL SURGERY TEAM AT HOSPITAL SANTA RITA DE CÁSSIA

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Abstract: Introduction: In developed countries, ovarian cancer is the leading cause of death from gynecological tumors. Diagnoses occur in more advanced stages. Primary debulking surgery followed by chemotherapy is the treatment of choice for most cases, but the determining factor for survival is performing optimal debulking. **Goal:** To evaluate the surgeries performed in the service and describe the epidemiological profile.**Materials and methods:** The study is retrospective, descriptive and quantitative, carried out through the analysis of data collected at Hospital Santa Rita de Cássia. Patients with ovarian malignancy who underwent surgical treatment by the oncology surgery team from January 2016 to December 2020 at Hospital Santa Rita de Cássia were evaluated. **Results:** The sample consisted of 79 patients, 62 were excluded, leaving a total of 17 patients. We identified the predominance of serous tumors. Of the patients in the sample, 23.5% underwent surgeries considered ideal (complete and optimal) and 41.2% underwent biopsy and were referred to neoadjuvant therapy. The sample comprised 59.3% of patients in more advanced stages (IIIC and IV). Recurrence occurred in 70% of cases. 41% of patients evolved to death. **Conclusion:** The study evaluated the surgeries performed by classifying and identifying the frequency of each one. The low ratio of ideal debulking may reflect the greater number of patients with advanced disease at the time of diagnosis. We can conclude that early diagnosis followed by adequate surgical treatment, when feasible, is essential for a better prognosis for these patients.

Keywords: Surgery. Ovary cancer. Cytorreduction. Staging.

INTRODUCTION

In developed countries, ovarian cancer is the leading cause of death from gynecological tumors. The diagnosis is commonly performed in more advanced stages (III and IV) and the 5-year survival in these patients is around 25%,[1]. In Brazil, ovarian cancer occupies the eighth position among tumors in women and the second most frequent cause among gynecological tumors. [2].

Epithelial tumors account for about 90% of ovarian tumors, the most common of which is serous carcinoma (75%). These tumors differ in terms of epidemiology, genetics, aggressiveness, pattern of spread and response to chemotherapy.[1,3].

Treatment is individualized. In more advanced stages, primary cytoreductive surgery followed by platinum-based chemotherapy with or without a Texan is the treatment of choice for most cases[4,5].

The smallest amount of disease left during surgery (complete/optimal cytoreduction) is the determining factor for the survival of these patients. Other factors are also important, such as age, clinical performance, histological grade and type and tumor chemosensitivity 5,6,7. Since the type of surgery performed is the only factor subject to intervention.

Post treatment relapses are around 70 to 80% and relapsed tumors are usually platinum resistant. Recurrence in less than 6 months is considered an early relapse and the tumor is considered platinum resistant[8,9,10].

The classification of surgery is based on the amount of residual disease. Classifying as complete cytoreduction the one in which the disease is not visible in the patient, optimal when the disease is up to 1 cm and suboptimal when residual disease greater than 1 cm remains, and biopsy when only the removal of material is performed without trying to reduce the volume of disease. [5,6]

The pathophysiology of cytoreduction based on the following principles: Excision of poorly vascularized tumors, which are more difficult for chemotherapy to penetrate. The removal of large tumor volumes, inducing the remaining tumors to increase cell multiplication, causing a better response to chemotherapy with cytotoxic function. A smaller volume of disease requires a smaller amount of chemotherapy to induce the desired effect. And there is an improvement in immunocompetence after removal of large tumor volumes[12,13].

Some factors may influence the performance of an ideal cytoreduction, and the preoperative identification of possibly resectable cases, the patient's performance, a biologically less aggressive disease, experience of the surgical team, and willingness of the surgeon and patient to be taken into account. perform a surgery with higher morbidity and with a surgery with prolonged surgical time. Although accepted as standard of care, the advisable limit of radicality is still unknown.[7,6,13].

Cytoreduction rates are quite varied. Some studies show reported rates of optimal debulking ranging between 20% and 85%[14]. In other studies, it has been shown that in large reference centers, ideal cytoreduction rates are reported to be around 70% to 80%, but above 50% are considered acceptable.[15].

Although controversial, some studies show that preoperative chemotherapy does not reduce survival and has a better result with postoperative morbidity and can provide a greater number of surgeries with a low amount of disease in patients in more advanced stages (III c and IV), when complete surgeries are impossible, proving to be the treatment of choice for these patients[4,16,17].

The multidisciplinary approach performed in a hospital specialized in oncology, with a specialized team and infrastructure, can improve both primary debulking rates and complete debulking rates, improving selection and better preparing patients, given the complexity of the treatment, the need for adherence and the impact that this can have on the survival of these patients[18].

The aim of this study is to evaluate the quality of the surgeries performed at the service by the oncology surgery team and the impact it has on the morbidity and mortality of our patients, to determine the clinical and epidemiological profile of the patients in the sample. With this data, we aim to improve processes to offer better treatment to our patients.

MATERIALS AND METHODS

The study is retrospective, descriptive and quantitative, carried out through the analysis of data collected from medical records and from the SIS-RHC (Hospital Cancer Registry), which is fed through the Tumor Registry Form. The study was carried out at Hospital Santa Rita de Cássia, which is a highly complex cancer care center (CACON) and is a reference in cancer treatment in the state of Espírito Santo. The patients were selected through the SIS-RHC (Hospital Cancer Registry), which identified the study population, through the selection of patients with malignant ovarian neoplasm (ICD C56), who underwent laparotomy to evaluate an ovarian tumor in oncology from January 2016 to December 2020.

Patients with epithelial malignant neoplasm of the ovary, stages greater than or equal to IIB, who underwent laparotomy for the evaluation of an ovarian tumor with the intention of treating it with primary debulking surgery or who underwent a biopsy and were referred to neoadjuvant therapy were included in the sample. Patients who underwent surgical treatment from other teams (due to lack of uniformity in

treatment), patients with non-epithelial ovarian cancer, those who underwent diagnostic laparoscopy, and patients who did not have information about the findings were excluded. intraoperative procedures and the surgery performed (complete, optimal and suboptimal or referred to neoadjuvant therapy).

As complete and optimal surgeries show survival benefits to patients, we will sometimes classify them as ideal surgeries and suboptimal surgeries and biopsies as non-ideal surgeries.

The data analyzed were age at diagnosis, BMI, surgical staging, performance status at the beginning of treatment, histological type, presence of ascites, preoperative CA 125 value, surgery performed (complete, optimal, suboptimal and referred to neoadjuvant therapy), surgical complications in the first 30 days, need for ICU admission, early relapse, disease-free interval and deaths.

Staging was performed according to the FIGO2 classification. Postoperative complications will be stratified and classified on the Clavien-Dindo complication scale. The moment of relapse will be established when there is an increase in ca 125 associated with imaging tests that suggest relapse after the end of adjuvant chemotherapy. And early relapse will be defined as relapse within 6 months.

The work was submitted for approval by the Research Ethics Committee in accordance with Resolution 466 of December 12, 2012 of the National Health Council with project approval on 02/12/22 with the following approval certificate number 63864822.9.0000.5071

For data analysis, the Excel 16.0 program was used, as well as the Statistical Package for the Social Sciences (SPSS®). Regarding the presentation of the results, the data were demonstrated by means of tables. For continuous and discrete quantitative variables, the Kolmogorov-Smirnov normality test was performed, being a non-parametric test used to evaluate the distribution between two different samples with probability distribution. To demonstrate the statistical significance in the association between the quantitative variables, the Student's t test was used, comparing the means of the two variables (VIEIRA, 2018). These data were described as mean, median, minimum, maximum and standard deviation. Nominal and ordinal qualitative data were described by absolute and percentage frequency. Pearson's chi-square test was used for correlation analysis in order to demonstrate the association between two qualitative variables. Considering the alternative hypothesis in this test with the existence of a relationship between variables (GOSALL, N.K; SINGH, G, 2012. Results with p value ≤ 0.05 were considered statistically significant.

RESULTS

The number of patients initially evaluated was 79, of which 3 were excluded for undergoing laparoscopy, 1 for having non-epithelial histology, 12 for being in early stages (between I and IIA), 11 for not containing the necessary information to identify the type of surgery performed in the medical records, 28 for having performed the surgery with the gynecology team and 7 for having performed the first procedure in another service, leaving 17 patients in our sample.

In tables 1 and 2 we observe the sociodemographic and clinical-surgical characteristics of our patients. Highlighting a greater number of patients aged between 50 and 59 years, accounting for 35.3% of the sample, there was a predominance of brown patients with 76.5%. We also identified the predominance of serous tumors in patients with a total of 76.5%. There was only 1 surgical

complication in the first 30 days that was classified as IV of this patient suffered a stroke requiring admission to the ICU. All patients had an altered CA 125 before surgery, with values ranging from 41 to 8,967.

Of the patients who underwent surgery, only 17.6% underwent complete surgery and 5.9% had excellent surgery, which led us to a percentage of 23.5% of surgeries considered ideal for patients. 41.2% underwent biopsy and were referred to neoadjuvant therapy. We also observed the predominance of patients in more advanced stages in the sample with 47.1% of patients in stage 3C and 17.6% in stage 4.

		n	%
Age	25-29	1	5,9%
	30-34	1	5,9%
	40-44	2	11,8%
	45-49	1	5,9%
	50-54	4	23,5%
	55-59	3	17,6%
	65-69	2	11,8%
	70-74	2	11,8%
	75-79	1	5,9%
Race / color	White	3	17,6%
	Black	0	0,0%
	Yellow	1	5,9%
	Brown	13	76,5%
	Indigenous	0	0,0%
Family history of cancer	Yes	5	29,4%
	No	8	47,1%
	No information	4	23,5%
Styling	Never	14	82,4%
	Former consumer	1	5,9%
	Yes	1	5,9%
	No information	1	5,9%
Smoking	Never	10	58,8%
	Former consumer	4	23,5%
	Yes	2	11,8%
	No information	1	5,9%

Table 1: Frequency of cases by sociodemographic variables in the period from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC). Vitória-ES, 2023.

		n	%
Primary location	Malignant Neoplasm of Ovary	17	100,0%
Histological type	Adenocarcinoma	2	11,8%
	Adenocarcinoma of clear cells	1	5,9%
	Serous Adenocarcinoma	13	76,5%
	Mucinous cystadenocarcinoma	1	5,9%
Staging	2B	2	11,8%
	3A	2	11,8%
	3B	2	11,8%
	3C	8	47,1%
	4B	3	17,6%
ECOG	0	6	35,3%
	1	4	23,5%
	2	4	23,5%
	No information	3	17,6%
CA 125 changed in diagnostics	Yes	17	100,0%
	No	0	0,0%
Type of surgery	Complete surgery	3	17,6%
	Great surgery	1	5,9%
	Nearly optimal surgery	6	35,3%
	Biopsy leads to neoadjuvancy	7	41,2%
Ascites	Yes	1	5,9%
	No	16	94,1%
	Yes	11	64,7%
	No	2	11,8%
	No information	4	23,5%

Table 2: Frequency of cases by specific tumor variables, staging and treatment from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC), Vitoria-ES, 2023.

In tables 3 and 4 we did not get a statistical significance, which can be justified by a small sample.

Early recurrence x type of surgery

		Early Relapse			Total
		Yes	No	No information	
Type of surgery	Complete surgery	0	2	1	3
	Great surgery	0	1	0	1
	Almost great surgery	3	2	1	6
	Biopsy referred to neoadjuvancy	3	4	0	7
Total		6	9	2	17

	Value	p-value
Pearson's chi-square	5,127[a]	0,621
Fisher's exact test	5,784	0,579
Number of valid cases	17	

a. 12 cells (100.0%) expected a count less than 5. The minimum expected count is 12.

Table 3. Fisher's Exact comparison test and cross table with the variables early recurrence and type of surgery by type of surgery, from 2016 to 2020, Hospital Santa Rita de Cássia (HSRC), Vitória-ES, 2023.

Type of surgery x staging

		Type of surgery				Total
		Complete surgery	Great surgery	Almost great surgery	Biopsy sent to neoadjuvancy	
Staging	2B	2	0	0	0	2
	3A	0	0	0	2	2
	3B	0	0	0	2	2
	3C	1	1	4	2	8
	4B	0	0	2	1	3
Total		3	1	6	7	17

	Value	p-value
Pearson's chi-square	18,349[a]	0,281
Fisher's exact test	17,275	0,298
Number of valid cases	17	

a) 24 cells (100.0%) expected a count less than 5. The minimum expected count is 0.6.

Table 4: Fisher's exact comparison test and cross table, between the variables type of surgery and type of staging in the period from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC), Vitoria-ES, 2023.

Table 5 shows that the frequency of recurrence in our sample reaches 70%. We identified that the average time of relapse in months is 9.58, but it shows how heterogeneous this sample is with an amplitude of 51, presenting a minimum time of 1 month and a maximum of 52. The standard deviation is 14.009.

	n	%
Yes	1	70,8%
No	2	11,8%
The person has not completed the treatment	2	11,8%
The person lost the thread	1	5,9%
Total	17	100,0%

Table 5: Frequency of recurrence in the period from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC), Vitoria-ES, 2023.

Period of recurrence in months (N) Válido	**12**
Average	9,58
Median	5,50
Standard deviation	14,009
Amplitude	51
Minimum	1
Maximum	52

Table 6: Descriptive statistics of the variable. Relapse period, in cases of patients with ovarian malignancy who underwent laparotomy, from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC). Vitoria, ES, 2023.

We observed that 41% of the evaluated patients died, and we had loss of segment of 3 patients. In the patients who died, 71.4% died due to the evolution of the disease and 28.6% due to other causes (1 death due to stroke, 1 death due to COVID 19). It is worth noting that 85.7% of patients who died died before 1 year after treatment.

		n	%
Death	Yes	7	41,1%
	No	7	41,1%
	The person lost the thread	3	17,7%
	Total	17	100%
Death cause	Related to oncological disease	5	71,4%
	Treatment related	0	0,0%
	Other causes	2	28,6%
	Total	7	100%
Death moment	During treatment	2	28,6%
	< 1 year after treatment	4	57,1%
	1 to 2 years after treatment	0	0,0%
	> 2 years after treatment	1	14,3%
	Total	7	100%

Table 7: Frequency of cases by variables related to death, in cases of patients with ovarian malignancy who underwent laparotomy, by type of surgery, from 2016 to 2020, Hospital Santa Rita de Cassia (HSRC), Vitória – ES, 2023.

DISCUSSION

The benefits that cytoreduction brings to the patient is a factor already established in the literature and its importance in the prognosis of patients is well known1,4. The analysis of our data shows that, of the patients who underwent surgery with the intention to treat (complete, optimal and suboptimal), only 30% underwent complete surgery and 10% optimal, with a percentage of 40% of surgeries considered ideal for patients. patients. Some studies show a variation between 20% and 85% in ideal debulking14. Others have surgery rates considered ideal around 70 to 80%, with acceptable values of up to 50%15. This leads us to question the possible causes for this number.

To try to understand this fact, we identified that the patients who underwent biopsy were, in a second moment, submitted to cytoreductive surgery. Complete and optimal surgeries were performed in 85.7%. A possible hypothesis can be raised by observing in the sample the predominance of patients in more advanced stages with 47.1% in stage 3C and 17.6% in stage IV, thus having a greater number of more advanced diseases which make cytoreduction more complex. We tried to find a relationship between the more advanced staging and the type of surgery performed, but we were unable to establish a statistically significant relationship, which may probably be occurring in a small number of patients in the sample.

When we analyzed the postoperative complications, we observed only 1 case, with the classification of surgical complications (Clavien Dindo) of IV. One hypothesis for such a low number of complications is that when surgeons found more extensive diseases and surgeries with high potential for complications, they opted to perform a biopsy and refer to neoadjuvant therapy. Studies have been corroborating a lower morbidity of secondary debulking compared to primary debulking[19].

Studies show that 60% of patients with epithelial ovarian cancer, at some point in their evolution, will relapse. This risk may increase to 80 to 85% when associated with other factors such as stages III and IV and with residual volume of postoperative disease greater than 2cm20. American data show that in 2019, 80% of patients with ovarian cancer had recurrence21. Comparing the frequency of recurrence in our sample, which reaches 70.8%, with the values found in the literature, the number is within the expected range. What we identified in Table 9 calls our attention. Although the average time of recurrence in months is 9.58, there is heterogeneity in the sample, demonstrated with an amplitude of 51, with a minimum time of 1 month and a maximum of 52. to find a relationship between the type of surgery performed and the staging with early recurrence (recurrence within 6 months) and, as shown in Tables 4 and 6, we did not find a statistically proven relationship, with the main hypothesis being that we have a very small sample size.

The overall survival of patients with ovarian cancer stages III and IV is reported in studies around 25 to 30% at 5 years,1. We identified that among our patients there were 40.1% of deaths, of which 85.7% of the patients who died died before the 1st year after treatment. In this group of patients, 71.4% died as a result of disease progression and 28.6% from other causes (1 death due to stroke, 1 death due to COVID 19).

We draw attention to the fact that our sample had a small number of patients (n=17). There was a need to exclude 11 patients due to lack of information in the medical records because they did not contain the type of surgery performed and the amount of remaining disease. We were forced into a small sample with difficulty obtaining statistically significant values. Which leads us to pay attention to the continuous education of the team to improve the documentation in the medical records, bringing improvements to the patient who would benefit from a treatment based on more accurate information and as an institution so that the data are used in the improvement of processes and in the production of scientific works.

CONCLUSION

The study was able to evaluate the epidemiological profile of patients with ovarian malignancy treated at Hospital Santa Rita de Cássia and the surgeries performed, classifying and identifying the frequency of

each one. The low number of optimal and suboptimal cytoreduction (considered ideal), which is lower than acceptable rates according to the literature, may be a reflection of the advanced stages that patients are at the time of diagnosis and due to the complexity and heterogeneity of patients. However, due to the small number of our sample, it did not have enough statistical power to determine the observed correlations as true.

Which leads us to a conclusion, early diagnosis is essential for a better prognosis for these patients. But when this is not possible, a multidisciplinary team is needed, with well-prepared professionals, and the availability of exams that can prepare the patient and the team to perform the best surgery for the patient.

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