

Research Article

The Role of Surgery in the Palliative Care of Cancer: A Retrospective Analysis of 22 years

Spiliotis J^{1,2,3*}, Rogdakakis A⁴, Kopanakis N³, Noskova I², Metaxas T¹, Farmakis D¹, Vaikos D¹, Vaxevanidou A⁴, Christopoulou A⁵, Margari H², Saroyan H¹, Karachalios D¹, Peppas G²

¹Surgery and Surgical Oncology European Interbalkan Medical Center, Thessaloniki, Greece

²Athens Medical Center, Athens, Greece

³Metaxa Cancer Memorial Hospital, Pireus, Greece

⁴Mesolongi General Hospital, Mesolongi, Greece

⁵Saint Andreus General Hospital, Patras, Greece

*Correspondence author: Spiliotis John MD, PhD, FASPSM, Surgery and Surgical Oncology European Interbalkan Medical Center, Thessaloniki, Greece;
Email: jspil@hotmail.gr

Citation: Spiliotis J, et al. The Role of Surgery in the Palliative Care of Cancer: A Retrospective Analysis of 22 years. Jour Clin Med Res. 2023;4(1):1-6.

<https://doi.org/10.46889/JCMR.2023.4103>

Received Date: 23-01-2023

Accepted Date: 13-02-2023

Published Date: 20-02-2023



Copyright: © 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CCBY) license (<https://creativecommons.org/licenses/by/4.0/>).

Abstract

Aim: Surgical procedures in palliative care are common, however the indications, risks and outcomes are not well described. We present a retrospective review of the management of cancer patients.

Material and Methods: During the period 2000-2022, 11.700 of cancer cases (abdominal, gynecological, urological and breast) were recorded in our registries and are analyzed.

Group A: All 6000 patients (51,3%) included in this group had a therapeutic intent in their management which include surgical procedures ± neoadjuvant and systemic chemotherapy and radiotherapy.

Group B: Palliative approach was applied in 2650 cases (22,6%) with both surgical and medical management being performed. Medical management consists of systemic chemotherapy and radiotherapy. Surgical procedures for palliation, include resections, reconstructions, ostomies, functional repairs, tube drainage and biopsies.

Group C: Best supportive care was applied in 3050 cases (26,1%) which includes nutritional management with home parenteral or enteral nutrition, pain management, physical and respiratory physiotherapy, and fistulas or ulcers management.

Primary end points include survival advantages while Quality of Life (QOL) was set as a secondary benefit. The risk of morbidity and treatment related mortality are also calculated between the different groups.

Results: A median follow up of 80 months was observed.

The median O.S. for group A was $44,4 \pm 16,3$ months and for palliative care group (B) was $26,3 \pm 11,7$ m ($p < 0,01$). On the other hand, the median O.S. for the group C (Best supportive care) was $8,7 \pm 5,2$ m. More specifically the group of patients with peritoneal metastasis which include 5200 patients (44,5%) of the total cancer patients was subdivided in 4 subgroups. The

role of palliative surgery with or without systemic or neoadjuvant chemotherapy, offer a better O.S. when compared with only systemic chemotherapy ($13,4 \pm 7,5$ m vs $71 \pm 4,3$ m) with acceptable morbidity and mortality rates.

Conclusion: In conclusion, the need for holistic palliative care in cases of incurable malignancy is not entirely clear how it is best to integrate into palliative surgical principles. The essential roles of surgical palliation are, initial evaluation of the disease, local control, control of discharge or hemorrhage, control of pain and reconstruction and rehabilitation.

Keywords: Chemotherapy; Palliative Surgery; Hemorrhage; Cancer

Introduction

During the last two decades, the role of oncological surgery is to perform procedures with curative intent together with neoadjuvant or postoperative systemic chemotherapy or radiotherapy [1-3].

More recently, there is some evidence where surgery can improve overall survival and quality of life even in patients with "unresectable" metastatic disease [4,5].

Palliative targets demand careful selection criteria concerning the role of surgery in order to eliminate unsuccessful events and morbidity. No surgical intervention can be considered without an analysis of expectations and risks, because this type of surgery has a higher risk than conservative or non-palliative operations in terms of morbidity and mortality. The best possible outcome for a patient treated with palliative intent is not easily defined. There is a discord between the maximum extension of one's life and the quality of one's final days [5].

Surgeons must remain reluctant to offer palliative surgery and should cooperate with other palliative care specialists. The aim of this paper is to present a retrospective analysis of cancer patients treated during the last 22 years from the same group of doctors in 4 different cancer centers.

Patients and Methods

For the period 2000-2022 a retrospective database analysis was performed from 4 different Cancer Hospitals in Greece. Through a retrospective review by the primary surgeon (JS), 11700 cases of cancer patients, (including abdominal, gynecological, urological and breast cancers), were analyzed (Table 1,2).

Group A: All patients included in this group had a therapeutic treatment intent. Included are 6000 cases (51,3%) who had performed various surgical procedures with or without neoadjuvant and/or systemic chemotherapy and radiotherapy.

Group B: Palliative approach was performed in 2650 cases (22,6%) with both surgical and medical management with systemic chemotherapy and radiotherapy. The essential roles of surgical palliation as defined by Ball, et al., are initial evaluation of the disease, local control of the disease, control of discharge or hemorrhage control of pain and reconstruction and rehabilitation [6]. Surgical procedures for palliation, include resections, reconstructions, ostomies, functional repairs, tube drainage and biopsies. The intent of a surgical procedure may not be known until an exploration in the operating room occurs.

Group C: Best supportive care was applied in 3050 cases (26,1%) which includes nutritional management with home parenteral or enteral nutrition, pain management, physical and respiratory physiotherapy, fistulas or ulcers management.

Primary end points include survival advantages while Quality of Life (QOL) was set as a secondary benefit. The risk of morbidity and treatment related mortality were also calculated between the different groups. Normally, the MM'S risks are usually high, owing to the nature of the advanced disease, comorbid conditions and poor performance status especially in groups B and C. All the procedures are patients signed and ethical committee permission approved (Table 3-6).

Surgery	45,70 %	5.350	Therap. Appr. **	3.85
Syst. Chem.	28,20 %	3.300	Pall Appr.	1.5
Best Supp. Care	26,06 %	3.050	Ther. Appr.	2.15
			Pall. Appr.	1.15
**Include neo-adjuvant chemotherapy, post-operative chemotherapy and neoadjuvant and post-operative radiotherapy				

Table 1: A retrospective database analysis between 2000-2022; Cancer Patients: 11.700.

Therapeutic Approach (total)	6.000	51,3 %
Palliative Approach (total)	2.650	22,6 %
Best Supp. Care (total)	3.050	26,1 %

Table 2: A retrospective database approach analysis between 2000-2022; Cancer Patients: 11.700.

Results

A median follows up of 80 months was observed. The median O.S. for group A was $44,4 \pm 16,3$ months and for palliative care group (B) was $26,3 \pm 11,7$ m ($p < 0,01$). On the other hand, the median O.S. for group C (Best supportive care) was $8,7 \pm 5,2$ m (Table 3).

The morbidity and mortality rates (MM's status) are presented in Table 4.

On the other hand, in Table 5 we presented the main clinical problems in group B (palliative procedure) according to the anatomical sites of the primary tumors. In upper GI cancer the most important symptoms are dysphagia and gastric obstruction. In low GI and gynecological cancer patients' obstruction and bleeding are the most common symptoms which demands palliative care and management.

Sometimes in cases of diffuse and solid cancer "adhesions" which provokes multiple obstructions in different levels of the gastrointestinal lumen, the palliative surgical procedure is making "external TUBE fistulas" using silicone tubes which offers a palliation decompression for 4 to 6 weeks in combination with home parenteral nutrition.

More specifically the group of patients with peritoneal metastasis which includes 5200 patients (44,5% of the total cancer patients) was subdivided in 4 subgroups which are presented in Table 6.

The role of palliative surgery with or without systemic or neoadjuvant chemotherapy offers a better O.S. when compared with only systemic chemotherapy ($13,4 \pm 7,5$ m vs $71 \pm 4,3$ m) with acceptable morbidity and mortality rates. Concerning the quality of life, there are questionnaires which were filled from our team which demonstrates better quality of life in 70% of patients with palliative procedures versus 88% in group A, while return to the social life events happens in 27% of patients in group B versus 93% of group A [7].

Group	Mean Survival
Therapeutic Approach	$44,4 \pm 16,3$ m
Palliative Care*	$26,3 \pm 11,7$ m
Best Supp. Care	$8,7 \pm 5,2$ m

Table 3: A group analysis between 2000-2022; Cancer Patients: 11.700.

Group	Morbidity	Mortality
Therapeutic Appr.	30 %	4 %
Palliative care	34 %	11 %
Best Supp. Care	52 %	2 %

Table 4: Group morbidity and mortality of Cancer Patients: 11.700.

Upper GI Symptoms	35%
Bleeding	30%
Dysphagia	60%
Gastric obstruction	40%
Pain	10%
Jaundice	35%
Low GI Symptoms	30%
Obstruction	80%
Bleeding	10%
Perforation	6%
Fistula	6%
Pain	5%
Gynecological Cancer Symptoms	15%
Bleeding	40%
Obstruction	30 5
Rectovaginal Fistula	30%
Others Symptoms	20%
Bleeding	18%
Fistula	40%

Table 5: Analysis of cancer patients, (including abdominal, gynecological, urological and breast cancers).

Peritoneal Metastasis 5.200 Patients (2006 - 2022)				
Group A		Group B	Group C	Group D
1.030 CRS + HIPEC		2.500 Palliative Surgery ± Chemo	1.300 Syst. Chem	370 Best Supp. Care
30,2 ± 12,6 m		13,4 ± 7,5 m	7,1 ± 4.3 m	3,4 ± 1,4 m
Group	A	B	C	D
Morbidity	30%	35%	25%	-
Mortality	3,5 %	5,6 %	2%	-

Table 6: Peritoneal metastasis.

Discussion

Palliative surgery remains an important factor of the comprehensive multidisciplinary approach of cancer care. Among the management modalities of cancer patients (radiotherapy, chemotherapy, pain management, rehabilitation) surgery is the least investigated [8].

Surgical outcome assessment is extremely important in the field of palliative care, and surgery's main goals of intervention include relief of symptoms, minimizing hospital stay, improving QOL without adding significant surgical morbidity and mortality, while the other goal of this type of surgery is being directed at modifying the underlying disease state and prolonging life [9].

There are controversial areas in the field of palliative surgery that includes the definition, indications, timing and precise outcomes measurements [10]. As far as the frequency of organs/ system involvement is concerned, gastrointestinal cancers constituted 60-65 in our study of the palliative surgical procedures, including peritoneal metastases, gynecological cancers and urological cancers.

Despite potential benefits of and advances in surgical palliative care, surgeons might remain reluctant to offer palliative surgery except in well selected patients. From the study of the outcome of palliative surgery in combination with systemic chemotherapy it comes out that it offers a survival benefit of $11,4 \pm 6,3$ m compared with $7,8 \pm 4,3$ m for the group of palliative chemotherapy or $3,8 \pm 1,8$ m in best supportive care.

These results are similar with other previous studies with smaller numbers of patients [11].

Our retrospective analysis demonstrates that palliative surgical procedures are an important part in the treatment of advanced stage cancer patients because our team is working in cancer centers and are dedicated in the management of peritoneal metastasis.

From our 11.700 patients with cancer during the last 20 years, in 27,2% of our cases we offer palliative surgery and adjuvant systematic chemotherapy and immunotherapy + radiotherapy.

The patient's journey in palliative surgery represents a particularly challenging and complex entity with certain expectations. Therefore, it is crucial for the collaboration with other subspecialties as medical oncologist, anesthesiologist for pain management and radiotherapists. The expectations and goals should be clarified with patients, families and team members [12].

In our study discussions and care plans are clearly documented with clinical decision making in tumor conferences by the incorporation of all available clinical information, predictive models and performance status calculations. The limitations of our study are the retrospective analysis and the difficulties to patients' selection concerning the prosperity of survival.

There is a small survival benefit in our study in patients who received palliative care ($26,3 \pm 11,7$ m) versus best supportive care ($8,7 \pm 5,2$ m) with a statistical significance (X2 test $p < 0,003$).

This result is explained by the best selection of patients which offer the palliative treatment surgery / chemotherapy and this result is not observed when we compared palliative chemotherapy only ($7,8 \pm 4,3$ m) versus best supportive care ($8,7 \pm 5,2$ m). Important role in palliative care plays the nutritional support of patients either as adjuvant treatment in palliative care or as a component in best supportive care. Our team offers home parenteral or enteral nutrition as potential choices in the management of malnutrition in patients with cancer, and short bowel syndrome after extensive cytoreductive surgery. According to the findings of our previous study and this trial, home artificial nutrition seems to have beneficial effect in management of palliative care [13].

Conclusion

In conclusion, although the need for holistic palliative care in cases of incurable malignancy definitely exists, it is not entirely clear how it is best to integrate the various palliative surgical principles [14]. The essential roles of surgical palliation are, initial evaluation of the disease, local control, control of discharge or hemorrhage, control of pain and reconstruction and rehabilitation.

Conflict of Interest

The authors have no conflict of interest to declare.

References

1. Robert S Krouse, Rebecca A Nelson, Betty R Farrell, Baiba Grube, Gloria Juarez, Lawrence D Wagman, et al. Surgical palliation at a cancer center. American Medical Assoc. 2001;773-8.
2. Berlin A, Johnston FM. Surgical palliative care: coming back to the future of care. Annals of Palliative Medicine. 2022;11(2):850-1.
3. Anna D Louie, Thomas J Miner. Palliative surgery and the surgeon's role in the palliative care team: a review. Ann Palliat Med. 2022;11(2):907-17.
4. Miner TJ, Jaques DP, Karpeh MS. Defining palliative surgery in patients receiving noncurative resections for gastric cancer.

- J Am Coll Surg. 2004;198:1013-21.
5. Milch RA, Dunn GP. The surgeon's role in palliative care. Bull Am Coll Surg. 1997;82:14-7.
 6. Ball AB, Baum M, Breach NM. Surgical palliation. In: Derek D, Hanks GWC, MacDonald N, eds. Oxford Textbook of Palliative Medicine. Oxford, Negland: Oxford Press; 1998:282-97.
 7. Kopanakis N, Argyriou EO, Vassiliadou D, Sidera C, Chionis M, Kyriazanos J, et al. Quality of life after cytoreductive surgery and HIPEC: A single centre prospective study. J BUON. 2018;23(2):488-93.
 8. Lau JW, Chang HS, Lee KY. Survival outcomes following primary tumor resection for patients with incurable metastatic colorectal carcinoma: experience from a single institution. J Dig Dis. 2018;19:550-60.
 9. Hofmann B, Haheim LL, Soreide JA. Ethics of palliative surgery in patients with cancer. Br J Surg. 2005;92:802-9.
 10. Wilcox AR, Wong SL. Trends in palliative surgical care. Adv Surg. 2019;53:69-81.
 11. Thomay AA, Jaques DP, Miner TJ. Surgical palliation: getting back to our roots. Surg Clin North Am. 2009;89:27-41.
 12. Task force on surgical palliative care; committee on ethics. Statement of principles of palliative care. Bull Am Coll Surg. 2005;90:34-5.
 13. Spiliotis J, Kopanakis N, Prodromidou A, Terras A, Polichronaki A, Koutikova C, et al. Survival and nutritional factors on Home Parenteral Nutrition (HPN): Our initial experience. Brain. 2018;3:1-6.
 14. Sommerfeldt AC, Austin N, Londahl M, Richter KK. Integrating palliative surgery and palliative care. BMJ Supportive & Palliative Care. 2022.

Journal of Clinical Medical Research



Publish your work in this journal

Journal of Clinical Medical Research is an international, peer-reviewed, open access journal publishing original research, reports, editorials, reviews and commentaries. All aspects of medical health maintenance, preventative measures and disease treatment interventions are addressed within the journal. Medical experts and other related researchers are invited to submit their work in the journal. The manuscript submission system is online and journal follows a fair peer-review practices.

Submit your manuscript here: <https://athenaeumpub.com/submit-manuscript/>