

Palliative Surgery for Cancer in Southwest Nigeria

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Abstract

Background: Most patients with cancer in the low-income environment present late, when the chances of cure are remote. Palliative care which includes surgery is needed to improve quality of life and minimize suffering and emotional disturbances associated with end of life. **Methodology:** Retrospective study of palliative surgery cases over five years. Data extracted included demographic features, diagnosis, procedure carried out, clinical status at 30 days postoperative, and survival. **Results:** 1,581 patients were operated over the study period. 227 patients were operated for malignancies; of these 91 patients (40%) had palliative procedures. The diagnoses in palliative surgery cases: prostate cancer 50 patients (54.9%), breast cancer 14.3%, stomach cancer 9.9%, and others. Indications for surgery were: urinary bladder outlet obstruction 46.1%, pleural effusion 14.3 %, obstructive jaundice 13.2%, and others.

Bilateral total orchidectomy was performed in 50.5%, tube thoracostomy in 14.3%, laparotomy and biopsy in 11%. Thirteen patients (14.3%) died postoperatively; 57 patients (62.6%) were alive and well at 30 days after surgery. Survival period was <1 to 53 months with a mean of 8 months. **Conclusion:** Palliative surgery is useful in some patients with cancer. Facilities for less invasive procedures should be improved.

Key words: Palliative surgery, Cancer, Outcome
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Introduction

Cancer is a major cause of mortality worldwide and was responsible for 9.6 million deaths in 2018 (1). About 53% of cancer mortality and 44% of cancer cases occur in countries with a low or medium human development index (HDI) (2). In Africa, cancer is an emerging public health concern. The International Agency for Research on Cancer (IARC) estimated that slightly over 1.05 million new cases and about 700,000 cancer deaths occurred in Africa in 2018; it is projected that 2.12 million cases and 1.43 million cancer deaths will occur by 2040 (3). Cancer care in low-income countries is bedevilled by many problems including late presentation, poor health facilities, ignorance, poor socio-economic status, adverse religious and cultural factors, with overall poor outcome (4–6). Most cancers in the low-income environment present late when chances of cure are remote even if the best treatment is available. Palliative care is needed to improve quality of life and minimize the suffering and emotional disturbances associated with end of life. Palliative care as defined by the World Health Organization is “an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual” (7). Palliative care involves measures to improve quality of life and minimize suffering but not necessarily to prolong life (7). Palliative surgery is generally defined as

procedures that are carried out to control symptoms and improve quality of life without consideration for overall survival (8). Common troublesome symptoms in cancer patients include pain, haemorrhage, vomiting, obstruction of hollow viscus (bowel, biliary tract, urinary tract) and inability to move. In high HDI countries, varieties of surgical techniques are available for symptom control and improvement of quality of life in patients with advanced cancers. These include minimal-access techniques such as endoscopy, laparoscopy, interventional radiology and open surgery. Most of these techniques are not available in resource-limited environments of low HDI countries like Nigeria. Most reports on surgical oncology worldwide focus on curative procedures with little mention of outcome of palliative surgery (9).

Despite the above, cancer patients in need of palliative surgery in low HDI countries still have surgical procedures done, but reports of these efforts are few. This work reports on the spectrum of palliative surgical procedures carried out on cancer patients managed by the Surgery Department of Olabisi Onabanjo University Teaching Hospital Sagamu, Nigeria, and their outcomes.

Methods

Olabisi Onabanjo University Teaching Hospital, Sagamu, is a 290-bed tertiary care facility located halfway between the densely populated cities of Lagos and Ibadan in southwest Nigeria. The hospital receives patients from the two cities

and surrounding communities. The hospital has a surgical oncology unit, a well-established histopathology service, radio-diagnostic services equipped with CT scan, ultrasonography, mammography machines, digital x-ray machines with facilities for screening, and well-equipped hematology and chemical pathology laboratories. The hospital offers diagnostic and therapeutic services—ablative surgery and chemotherapy—for solid and hematological malignancies, but a radiotherapy or separate facility for palliative care is lacking.

This was a retrospective study of all patients who had palliative surgery from 1 January 2013 to 31 December 2017, on account of cancer confirmed by histopathology. Palliative surgery was defined as procedures carried out for symptom control and improvement in quality of life without consideration for overall survival (8). Using this definition, one of the authors identified the cases; cases whose planned procedure at surgery was modified were included. The theatre register was used to identify cases, and case notes were retrieved from the Health Information Management Department of the hospital for data extraction. Paediatric surgical, gynaecological patients and those with incomplete records were excluded from the study. Patient case notes were retrieved and the following data extracted: demographic features—age, sex, address, educational status, occupation; diagnosis including clinical stage of the disease as recorded at time of initial assessment; procedure carried out; indication; immediate postoperative status; postoperative complication; duration of admission; clinical status at 30 days postoperative; survival and current status at last clinic visit. Patients with postoperative complications or those with persistence of the indication for the procedure were classified as unwell and those without as well. The procedure carried out was classified as major and minor, depending on the extent of surgery. Period of survival was defined as from date of surgery to the last contact with the patient or time of death. Those whose status was unknown and were lost to follow-up were recognized as such.

Data were analysed using SPSS software version 20, using descriptive and inferential statistics. Student's *t*-test compared means; level of significance was set as 0.05.

Results

A total of 1,581 patients were operated on over the study period. Of these, 227 patients were operated for malignancies, and 91 of these patients (40%) had palliative procedures (65 male (71.4%), 26 female (28.6%)); age range was 30–90 years and mean age was 65 years (SD 14). The mean age for male patients was 70 years (SD 11) and for female patients 53 years (SD 13), *t*-test ($T=6.34$) $p=0.000$. Duration of admission ranged from 1 to 48 days (mean 10 days, SD 12). Carcinoma of the prostate was the commonest cancer requiring palliative surgery, next was carcinoma of the breast (Table 1).

Table 1. Diagnosis of carcinomas

Diagnosis	Frequency (n=91)	%
Carcinoma of prostate	50	54.9
Carcinoma of breast	13	14.3
Carcinoma of stomach	9	9.9
Carcinoma of head of pancreas	8	8.8
Carcinoma of colon/rectum	5	5.5
Carcinoma of gall bladder	4	4.4
Carcinoma of duodenum	1	1.1
Retroperitoneal sarcoma	1	1.1

The indication for palliative surgery was urinary bladder outlet obstruction alone secondary to carcinoma of prostate in 46.1% of patients, pleural effusion caused by metastatic breast cancer in 14.3%, and the rest as shown in Table 2.

Table 2. Indication for surgery

Indication for surgery	Frequency	%
<i>Hollow viscera obstruction</i>		
Bladder outlet obstruction (BOO)	42	46.1
Obstructive jaundice	12	13.2
Gastric outlet obstruction (GOO)	7	7.7
Bowel obstruction	6	6.6
BOO + metastasis (Bone)	4	4.4
BOO + paraparesis	3	3.3
GOO + obstructive jaundice	1	1.1
Total	75	82.4
<i>Others</i>		
Pleural effusion	13	14.3
Abdominal mass	2	2.2
Haematuria	1	1.1
Total	91	100.0

Table 3 shows palliative procedures carried out on patients.

Table 3. Palliative procedures done

Procedure	Frequency	%
Bilateral total orchidectomy (BTO)	46	50.5
Tube thoracostomy	13	14.3
Laparotomy	10	11.0
Gastrojejunostomy	6	6.6
BTO + suprapubic cystostomy	3	3.3
Colostomy	3	3.3
Cholecystojejunostomy	3	3.3
Cholecystojejunostomy + jejunojejunostomy	3	3.3
Gastrojejunostomy + cholecystojejunostomy	3	3.3
Suprapubic cystostomy	1	1.1
Partial gastrectomy	1	1.1
Ileo-transverse anastomosis	1	1.1
Total	91	100

Postoperative complications observed were respiratory failure 2.2% (in 2 patients with carcinoma of breast), anaemia 2.2% (in 2 patients with carcinoma of prostate), cardiovascular collapse

2.2% (in 1 patient with carcinoma of stomach and 1 patient with carcinoma of gall bladder), acute renal failure 1.1% (in 1 patient with carcinoma of prostate), acute urinary retention 1.1% (in 1 carcinoma prostate case), burst abdomen 1.1% (carcinoma of pancreas case), and psychotic illness 1.1% (carcinoma of stomach).

Tables 4 and 5 show the thirty-day status distribution for diagnosis and procedure. Survival period was <1 to 53 months with a mean of 8 months (SD 9 months).

Table 4. Postoperative (PO) mortality and diagnosis

Diagnosis	Alive PO	Died PO	Total
Carcinoma prostate	47	3	50
Carcinoma breast	8	5	13
Carcinoma stomach	8	1	9
Carcinoma pancreas	7	1	8
Carcinoma colon / rectum	2	3	5
Carcinoma gall bladder	4	0	4
Carcinoma duodenum	1	0	1
Retroperitoneal sarcoma	1	0	1
Total (%)	78(85.7)	13(14.3)	91(100)

Discussion

Palliative surgery is an important aspect of oncological surgery and constitutes 6–12% of all surgical procedures for cancer (8). In our study, 40% of patients had palliative surgery, due mainly to late presentation of cancer cases in our environment, making curative surgery no longer feasible. Late presentation is a common problem in countries with low HDI in sub-Saharan Africa. Carcinoma of the prostate was the cause of symptoms in 54.9% of the patients studied, reflecting a variety of factors such as high prevalence of the disease, late presentation, lack of equipment and expertise needed for other treatment methods such as radiotherapy and radical prostatectomy. Bilateral total orchidectomy (BTO) provides excellent palliation in patients who are not suitable for radical prostatectomy and obviates complications of surgery such as urinary incontinence and erectile dysfunction (10).

Obstruction of hollow viscera such as stomach, intestines, biliary tract and urinary bladder are common in advanced cancers of these organs, as seen in this study, in which 82.4% of patients had symptomatic obstruction of hollow viscera.

In most cases, a shunt or a bypass procedure is required to relieve the obstruction. Though not a bypass procedure, BTO provides gradual relief of urinary bladder outlet obstruction in patients with carcinoma of the prostate, through hormonal deprivation and consequent shrinking of the tumour. BTO may complement cystostomy or urethral catheterization in patients requiring rapid urinary bladder drainage. Obstruction of hollow viscera can be treated using less invasive techniques such as endoluminal stents, laser, and radiotherapy. These techniques are not readily available in a resource-limited environment like Nigeria.

Suitability for palliative cancer surgery is determined by technical feasibility, patient fitness physically and emotionally for surgery and anesthesia, and must have a benefit (11). In this study, a group of patients (10%) had laparotomy where a biopsy was taken though the initial plan was to carry out a symptom-relieving procedure such as debulking or a bypass procedure, but the lesions were found inoperable at surgery. A situation like this can be avoided in some instances by advanced imaging techniques like CT scan and MRI, and complemented by laparoscopy during which tissue biopsy could be done.

Evaluation of end-point of palliative surgery involves assessing relief from symptoms, morbidity of the procedure, morbidity of not doing the procedure, cost analysis, survival benefits and quality of life of care givers (12). The complication rate in this series was 11%, which is much lower than reported in other series at 28–40% (12, 13).

This low postoperative complication rate can be ascribed to the fact that 70% of the patients had minor procedures, which are expected to have fewer postoperative complications. In this study, 14.3% of patients died postoperatively in hospital, and 17.6% were lost to follow-up with status unknown. This is comparable to the mortality rate of 9–36% found by other workers in high HDI countries (8). The procedures were deemed successful in 62.6% of patients classified as well because they were relieved of their symptoms 30 days after the surgery (Table 6). Although palliative surgery is not focused on improving survival, some studies have shown improved quality of life, which translated to prolonged survival after palliative surgical procedures (14). In our study, survival period range was <1 month to 53 months, with a mean of 8 months. The

Table 5. Diagnosis and 30 days postoperative status

Diagnosis	Dead	Unknown	Unwell	Well	Total	%
CA prostate	3	5	1	41	50	54.9
CA breast	4	4	0	5	13	14.3
CA stomach	1	2	2	4	9	9.9
CA pancreas	1	2	0	5	8	8.8
CA colon/rectum	4	1	0	0	5	5.5
CA gallbladder	0	2	2	0	4	4.4
CA duodenum	0	0	0	1	1	1.1
Retroperitoneal sarcoma	0	0	0	1	1	1.1
Total (%)	13 (14.3)	16 (17.6)	5 (5.5)	57 (62.6)	91	100.0

Table 6. Procedures carried out and 30 days postoperative status

Procedure	Died	Unknown	Unwell	Well	%
Bilateral total orchidectomy (BTO)	3	5	1	37	50.5
BTO + Suprapubic cystostomy	0	0	0	3	3.3
Suprapubic cystostomy	0	0	0	1	1.1
Tube thoracostomy	4	4	0	5	14.3
Laparotomy	1	5	2	2	11.0
Gastrojejunostomy	1	1	1	3	6.6
Partial gastrectomy	0	0	0	1	1.1
Ileo-transverse anastomosis	0	0	1	0	1.1
Colostomy	3	0	0	0	3.3
Cholecystojejunostomy	0	1	0	2	3.3
Cholecystojejunostomy + jejunojejunostomy	1	0	0	2	3.3
Gastrojejunostomy + Cholecystojejunostomy	0	0	0	1	1.1
Total (%)	13 (14.3)	16 (17.6)	5 (5.50)	57 (62.6)	100

patient who survived longest had tube thoracostomy for pleural effusion secondary to carcinoma of the breast, was treated with chemotherapy and is still alive asymptomatic at the time of this report in February 2019.

Study limitations

The retrospective nature of the work—a controlled randomized trial—which is associated with incomplete data, may face ethical problems. The assessment of success of the procedures from the surgeon's viewpoint alone without patient input is a flaw.

Conclusion

Palliative surgery is helpful in some of our patients with advanced cancer; it provided appreciable relief of symptoms with tolerable morbidity. Palliative surgery needs to be scaled up and facilities for less-invasive procedures such as endoscopic and interventional radiological techniques must be improved. A substantial fraction of patients who present very late may benefit from less-invasive methods.

References

1. Bray F, Ferlay J, Soerjomataram I, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68:394–424.
2. Human Development Report (2013). United Nations Development Programme. [hdr.undp.org>hdr2013_en_complete](http://hdr.undp.org/hdr2013_en_complete)
3. Cancer Tomorrow. International Agency for Research on Cancer. 2018. Available from <http://gco.iarc.fr>. Accessed on 8/12/2018.
4. Stefan DC. Cancer care in Africa: An overview of resources. *J Glob Oncol.* 2015; 1(1):30–36.
5. World Health Organization. National Cancer Control programmes. Geneva: World Health Organization; 2002. www.who.int/cancer/publications/nccp2002
6. Barton MB, Frommer M, Shafiq J. Role of radiotherapy in cancer control in low-income and middle income countries. *Lancet Oncol.* 2006; 7 (7):584–95.
7. World Health Organization. Definition of Palliative Care. 2002. <http://www.who.int/cancer/palliative/definition/en/>.
8. Sallnow L, Feuer D. The role of surgery in the palliation of malignancy. *Clin Oncol. (R Coll Radiol)* 2010; 22:713–8.
9. Porter GA, Skibber JM. Outcomes research in surgical oncology. *Ann Surg Oncol.* 2000; 7:367–75.
10. Kaisary AV, Tyrrell CJ, Pelling WB, et al. Comparison of LHRH analogue (Zoladex) with orchidectomy in patients with metastatic prostate cancer. *Br J Urol.* 1991; 67:502–8.
11. Ripamonti C. Management of bowel obstruction in advanced cancer. *Curr Opin Oncol.* 1994; 6:351–7.
12. Miner TJ, Brennan MF, Jacques DP. A prospective symptom related outcomes analysis of 1022 palliative procedures for advanced cancer. *Ann Surg.* 2004; 240(4):719–27.
13. Krouse RS, Nelson RA, Farrell BR, et al. Surgical palliation at a cancer center. *Arch Surg* 2001; 136:773–8.
14. Dunn GP. Surgical palliative care: Recent trends and developments. *Anaesthesiol Clin.* 2012; 30(1):13–28.