

ROLE OF CHEMOTHERAPY AS ADJUNCT TO WEAK OPIOIDS FOR PAIN RELIEF IN PATIENTS WITH ADVANCED CANCER

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Abstract:- Background: Pain is the most common symptom of advanced cancer patients, with 30% having pains as the first presenting feature, while in the last few weeks of life the figure rises to 70%¹. In a developing country like Nigeria, majority of cancer patient present late at stage III&IV^{3x4}. At this stage treatment like surgery, chemotherapy and radiotherapy could not achieve desired cure. Pain and symptoms control therefore are of priority to these patients. In this advanced stage, further compounding their suffering is the unavailability of strong opioids like liquid morphine to alleviate pain. Chemotherapy therefore becomes the readily available treatment option which could be applied in most centers not having strong opioids and Radiotherapy facilities. This study was therefore conducted to assess the degree of response of chemotherapy to pain relief among the cancer patients. **Patients and Method:** Consecutive cancer patients who were scheduled to receive chemotherapy for various malignancies with histological confirmation, within a period of 10 months in 2011 were studied. They were interviewed with structured questionnaires by trained medical officer from palliative care unit of University College Hospital. The pain was assessed using Visual Analogue Scale (VAS), data was collated and analyzed using SSPS application software version 16.0. **Results:** Most patients were in 50-59 years age group, in terms of education 25% had primary, 35% had secondary and 38% had tertiary level of education. Over 60% of patients completed 6 courses of chemotherapy prescribed. The common malignancy seen were breast 50%, cervix 22%, prostate 3% and nasopharynx 7%, others 18%. Pre-chemotherapy pain assessment were mild 10% moderate 8% and severe 75% and no pain 7% while the post chemotherapy pain assessment was mild 17% moderate 27%, severe 22% and no pain 24%. about 50% response was observed post chemotherapy. **Conclusion:** In this study chemotherapy showed appreciable pain relief about 30% reduction in number of patients with severe pain was achieved, however the cost of chemotherapy drugs is still high in Nigeria compared to cost of liquid morphine, it can only be recommended for pain relief when liquid morphine is unavailable.

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Key words: Pain relief, chemotherapy, Advanced cancer

Introduction

Pain is the most common symptom of advanced cancer patients, with 30% having pains as the first presenting feature, while in the last few weeks of life the figure rises to 70%¹. Pain has been defined by International Association for the Study of Pain (IASP) as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

The etiology of pain in cancer patients have been attributed to (a) Direct tumour involvement (70%) leading to invasion of bone, invasion or compression of neural structures, obstruction of hollow viscus, vascular obstruction or mucous membrane ulceration. (b) Cancer induced syndrome (10%) such is para-neoplastic syndrome, (c) Pain associated with debility. The pain in metastatic bone as been attributed to pressure effect on the expanding tumour leading to micro fractures in addition to chemical stimulation of pain receptors from release of cytosine².

In a developing country like Nigeria, majority of cancer patient present late at stage III&IV^{3x4}. At this stage treatment like surgery, chemotherapy and radiotherapy could not achieve desired cure. Pain and symptoms control therefore are of priority to these patients. In this advanced stage most of the patients over 75% have multiple sites of pain; further compounding their suffering is the unavailability of strong opioids like liquid morphine to alleviate pain. When such drug is available the cost is usually high hence out of reach of the patients. Radiotherapy has been shown to give good response to pain relief especially in metastatic bone pain; Adenipekun et al⁵ reported 23% complete response and 73% partial response within 4 weeks of Radiotherapy for metastatic bone pain. The challenge to use of Radiotherapy for pain relief in advanced cancer in Nigeria is the limited Radiotherapy facilities available in Nigeria. A country of 140 million people having over 100,000 new cases of cancer diagnosed annually has just five centers, some centers do have

down time of 3-6 months yearly. Chemotherapy therefore becomes the readily available treatment option which could be applied in most centers not having strong opioids and Radiotherapy facilities. This study was therefore conducted to assess the degree of response of chemotherapy to pain relief among the cancer patients.

Patients and Method:

Consecutive cancer patients who were scheduled to receive chemotherapy for various malignancies with histological confirmation, within a period of 10 months in 2011 were studied. These patients were also attending psycho-oncology clinic where they were counseled about various aspects of their treatment. They were interviewed with structured questionnaires by trained medical officer

from palliative care unit of University College Hospital. The questionnaires consisted of 3 sections; section A addressed demographic data, section B addressed details of chemotherapy given, number of courses, consistency and side effects experienced. Section C addressed the pain issues, before and after chemotherapy; medication being used. The pain was assessed using visual Analogue Scale (VAS), data was collated and analyzed using SSPS application software version 16.0

Results:

100 patients were studied, the age ranged from 30-79 years with the median age group 50-59 years

Table 1. Age Group

	Frequency	Percent	Valid Percent	Cumulative Percent
<30 yrs	2	2.0	2.0	2.0
30yrs- 39yrs	10	10.0	10.0	12.0
40yrs-49yrs	21	21.0	21.0	33.0
50yrs-59yrs	43	43.0	43.0	76.0
60yrs-69yrs	21	21.0	21.0	97.0
70yrs-79yrs	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Table 2. Educational background

	Frequency	Percent	Valid Percent	Cumulative Percent
Primary	25	25.0	25.0	25.0
Secondary	35	35.0	35.0	60.0
Tertiary	38	38.0	38.0	98.0
Nil	2	2.0	2.0	100.0
Total	100	100.0	100.0	

Table 3. What was the primary site of the disease

	Frequency	Percent	Valid Percent	Cumulative Percent
Breast	50	50.0	50.0	50.0
Prostrate	3	3.0	3.0	53.0
Cervix	22	22.0	22.0	75.0
Nasopharynx	7	7.0	7.0	82.0
Others	18	18.0	18.0	100.0
Total	100	100.0	100.0	

Table 4. Chemotherapy

	Frequency	Percent	Valid Percent	Cumulative Percent
Anthracycline Group	36	36.0	36.0	36.0
Non-Anthracycline Group	64	64.0	64.0	100.0
Total	100	100.0	100.0	

Table 5. Pain Score Pre Chemotherapy

	Frequency	Percent	Valid Percent	Cumulative Percent
Mild (VAS 1-2)	10	10.0	10.0	10.0
moderate (VAS 3-6)	8	8.0	8.0	18.0
Severe (VAS 7-10)	75.0	75.0	75.0	93.0
no pain (VAS 0)	7	7.0	7.0	100.0
Total	100	100.0	100.0	

Table 6. Post Chemotherapy Pain Score

	Frequency	Percentage
Mild (VAS 1-2)	17	17%
Moderate (VAS 3-6)	27	27%
Severe (VAS 7-10)	22	22%
No Pain (VAS 0)	24	24%
	100	100%

How many courses of chemotherapy

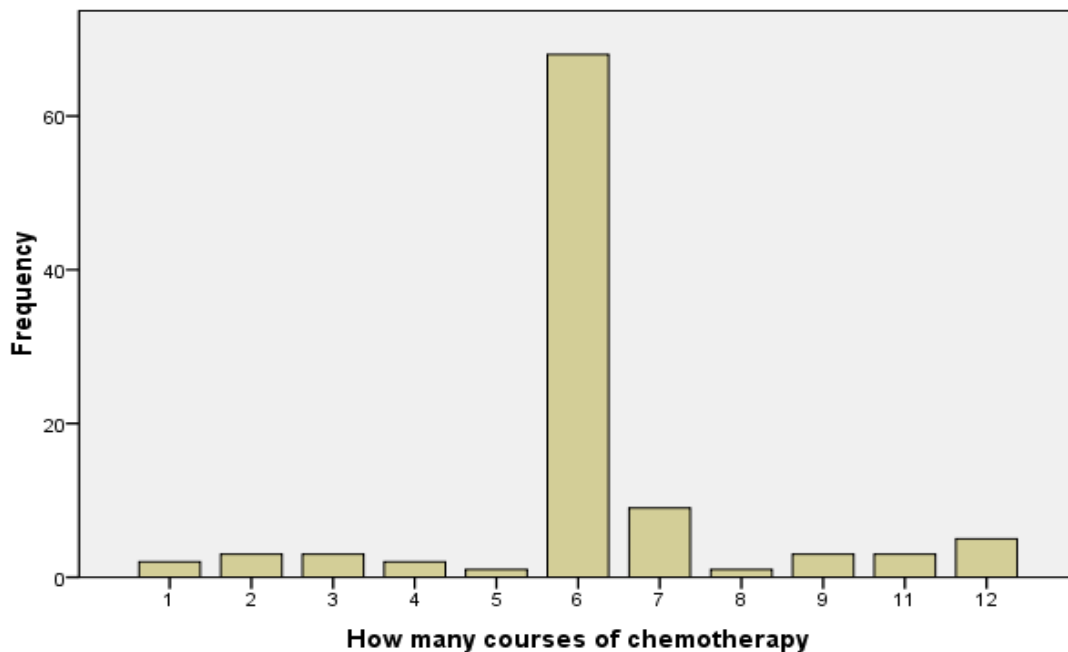


Figure 1. How many courses of chemotherapy

Discussion:

Pain relief goes a long way towards improving the general well of cancer patients. In this study 86% of the patients complained of pain prior to commencement of chemotherapy, though in various degrees, this is expected at the late stage of presentation. In this study breast cancer and cervical cancer patients constituted the majority 72%, these groups of patients, especially breast cancer are prone to have multiple sites of pain, Galasko⁶ reported bony metastasis in 68% of patients with prostate cancer and 73% with breast cancers. Among these patients appreciable pain relief was achieved with reduction in the number of patients with severe pain from 68 to 22 and no pain group increased from 14 to 24 which represent about 8.6 % complete response to chemotherapy among the 86 that had pain prior to chemotherapy. The number mild to moderate also increased by about 50% which could be described is partial response. The chemotherapy applied in these patients were the anthracyclin (Doxorubicin) based chemotherapy and the non anthracycline such as Cisplatin and taxoteres. These combinations have achieved some appreciable positive response to pain relief among these patients, other analgesic medication used by the patients were, Paracetamol, Dihydro -codeine and sometimes Tramadol.

Pharmacological treatment is the mainstay of cancer pain management and success depends on observing the WHO principle of therapy⁷. The guidelines are based on a three step analgesic ladder beginning with non-opioids and then move to weak and later strong opioids, with or without adjuvant drugs.

Liquid morphine has been shown to be effective in pain management of advanced cancers and it's the main stay medication in palliative care⁸. In most developing countries like Nigeria due to strict government regulation and poor knowledge of the use of the drug, there is scarcity of the medication hence most patients rely on weak opioids.

Radiotherapy, to primary and metastasis sites have been demonstrated to achieve pain relief in cancer patients⁹ but this facility are only available in 5 centers in Nigeria this being not adequate to meet the needs of the patients, has translated to long waiting list, patients could not therefore assess the treatment on time.

Non pharmacological complementary treatments have been described, such as Acupuncture, guided imagery, music-therapy, Aromatherapy, massage, hypnosis among other have shown good pain relief in cancer¹⁰ but in our environment very few care providers are skilled in these area.

In this study chemotherapy has shown

appreciable pain relief, however the cost of chemotherapy drugs is still high in Nigeria compared to cost of liquid morphine when available, it can only be recommended when liquid morphine is not available. It is our appeal that the Federal Ministry of Health (FMOH), National Food and Drug Agency Commission (NAFDAC), Hospice and Palliative Care Association of Nigeria (HPCAN) and other stake holders should collaborate and intensify efforts in making liquid morphine available to our numerous cancer patients.

The use of chemo-radiotherapy in the management of pain in cancer patients is as area for future review, it is hoped that the complimentary effects of this regimen might give better results with associated toxicities being closely monitored.

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