Use of opioids and its impact on quality of life in chemotherapy induced oral mucositis: A prospective observational study

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Introduction

- ❖ Oral mucositis, a progressive, inflammatory, and ulcerative condition of the mucous membranes, is one of the common side effects of cancer treatment
- ❖ Symptoms of mucositis vary from pain and discomfort to an inability to tolerate food or fluids.
- ❖ Mucositis may also limit the patient's inability to tolerate chemotherapy, resulting in dose-limiting toxicity and hence drastically affecting cancer treatment and outcome.
- ❖ For adequate symptom control strong opioids are required.
- ❖ So, in this study we planned to assess the strong opioid requirement in patients with chemotherapy induced mucositis and its impact on their quality of life.

Aims And Objectives

- Aim:**
- To assess analgesic requirement, quality of life and symptom burden in patients with chemotherapy induced oral mucositis admitted in the hospital for symptom management.
- Primary objective:**
- To assess analgesic requirement (strong opioids) in patients with chemotherapy induced oral mucositis and its impact on QOL.
- Secondary objective:**
- To assess symptom burden.

Materials and Methods

Inclusion Criteria:

All cancer patients with chemotherapy induced mucositis, admitted in the hospital, requiring strong opioid for analgesia were included in the study.

Exclusion Criteria:

Refusal to take part in the study.
Patients with cognitive impairment.
Patients with radiotherapy induced mucositis

- ❖ After approval from Institute Ethics Committee patients with mucositis were enrolled
- ❖ The patient's demographic data including the age, gender, educational status, histopathological diagnosis and stages, ECOG staging, treatment history, previous admissions, duration of disease, adverse effects of analgesics like constipation, dyspepsia, sedation if any were recorded in a predesigned proforma.
- ❖ Tools used were
 - Harris mucositis-related pain assessment tool.
 - World Health Organization (WHO) grading of mucositis:
 - Quality of life was assessed by EORTC-QLQ 30
- ❖ Dosage of strong opioid, required for analgesia was recorded every day till the discharge of the patient or stoppage of the opioid requirement whichever was earlier.

Results

- ❖ Total 100 patients were included in the study.
- ❖ Median gap between mucositis development and last chemotherapy was 6.7 days.
- ❖ 16% patients were initially managed with IV tramadol where as rest 84% of the patients were managed with IV morphine administration initially.
- ❖ As the time passes eventually total 93% patients required morphine administration for symptom control.
- ❖ Mean intravenous morphine consumption was 26 mg in 1st day of presentation.
- ❖ Median WHO grading of mucositis was 3.
- ❖ Majority of the patients were suffering from multiple myeloma (45%) followed by Hodgkin's lymphoma (17%) and ALL (10%).
- ❖ Mean NRS of pain was 7.9 and 1.6 on day 1 and day 7 respectively.
- ❖ Mean 24 hrs morphine consumption was 26 mg and 11 mg in day 1 and day 7 respectively.
- ❖ Global health status, physical functioning, role functioning, emotional functioning, cognitive functioning and social functioning were improved on day 7 in comparison to day 1.
- ❖ Fatigue, Nausea and vomiting, pain, dyspnoea, insomnia, appetite loss, constipation, diarrhoea, financial difficulties were reduced on day 7 in comparison to day 1.
- ❖ Melphalan (63%) was the commonest drug associated with mucositis followed by Mesna (34%), Busalphan (26%), cyclophosphamide (26%) and etoposide (23%).

Table 1: Demographic details of mucositis patients

Parameter	N (Number)
Sex(M/F)	61/39
Age	42(21-71)
ECOG (1/2/3/4)	(16/51/28/5)
KPS	57(40-80)
Address(Rural/Urban)	67/33
Marital (Married/single/Widow)	68/21/11
Smoking(%)	18
Alcohol (%)	19
Gap between Mucositis development and last chemotherapy	6.7 (3-15)
Diet (Spicy/Non-Spicy)	62/38

Table No 2: Primary disease distribution among patients

Disease	No. of patients (n=100)
Multiple myeloma	46
Hodgkin's lymphoma	17
ALL	10
Non Hodgkin's lymphoma	9
AML	9
CML	2
Carcinoma Ovary	2
Ewing Sarcoma	2
Carcinoma Rectum	2
GCT	1

Table 3: Mucositis grading, symptoms & morphine consumption (A; able, W; with difficulty; U; unable)

Day	Mucositis grading	NRS	Mean 24 hrs morphine consumption (mg)	Swallow	Eat	Talk
1	3(2-4)	7.9±0.9	26±17	A-0% W-86% U-14%	A-0% W-14% U-86%	A-0% W-14% U-86%
2	3(2-4)	6.8±1.0	30±15	A-0% W-14% U-86%	A-0% W-14% U-86%	A-0% W-14% U-86%
3	3(2-4)	5.3±1.0	30±14	A-0% W-38% U-62%	A-0% W-38% U-62%	A-0% W-39% U-61%
4	3(2-4)	4.8±0.8	26±13	A-0% W-76% U-24%	A-0% W-76% U-24%	A-3% W-73% U-24%
5	2(1-4)	3.4±1.0	23±13	A-24% W-76% U-0%	A-24% W-76% U-0%	A-42% W-58% U-0%
6	2(1-4)	2.7±0.5	16±12	A-67% W-33% U-0%	A-74% W-36% U-0%	A-85% W-15% U-0%
7	1(1-3)	1.6±0.5	11±8	A-100% W-0% U-0%	A-100% W-0% U-0%	A-100% W-0% U-0%

Table 4: Quality of life before initiation of opioid and 7th day after opioid initiation

Quality of life	Day 1	Day 7	P
Global health status	32±19	57±14	<0.001
Physical functioning	50±32	69±18	<0.001
Role functioning	48±29	74±20	<0.001
Emotional functioning	55±22	74±13	<0.001
Cognitive functioning	55±27	79±19	<0.001
Social functioning	45±27	66±20	<0.001
Fatigue	63±24	34±17	<0.001
Nausea and Vomiting	41±28	10±14	<0.001
Pain	72±17	24±13	<0.001
Dyspnoea	27±38	11±19	<0.001
Insomnia	54±25	13±17	<0.001
Appetite loss	67±32	34±27	<0.001
Constipation	36±37	10±16	0.005
Diarrhoea	17±30	1±7	<0.001
Financial difficulties	47±32	33±26	<0.001

Table 5: Hematological and biochemical parameters of mucositis patients

Blood investigation	Result
Haemoglobin	9.7±1.8
TLC	4.88±5.16×10 ³
Platelet	49,200±50050
Urea	32±18
Creatinine	0.76±0.43
Bilirubin	1.7±2.8
Total protein	5.2±2.2
SGOT	68±142
SGPT	90±189

Table 6: Details of Chemotherapeutic agents used

Chemotherapeutic agents used	Number of patients (n=100)
Melphalan	63
Mesna	34
Busalphan	26
Cyclophosphamide	26
Etoposide	23
Ara-C	22
Carmustine	18
Endoxon	10
Oxaliplatin	2
5-Fluorouracil	2
Carboplatin	4

Discussion

- ❖ First study to comment on morphine consumption in mucositis patients.
- ❖ Drugs most frequently associated with mucositis are bleomycin, cytarabine, doxorubicin, etoposide, 5-fluorouracil, ifosfamide, mercaptopurine, methotrexate, paclitaxel, vinblastine, vincristine, and vinorelbine.
- ❖ In our study common drugs associated with mucositis were found to be Melphalan, Mesna, Busalphan, cyclophosphamide and etoposide.
- ❖ The physical symptoms of mucositis begin 5 to 10 days after chemotherapy.
- ❖ In our study it was developed after 6.7 days (median)
- ❖ Oral mucositis is the most common condition that requires systemic analgesics.
- ❖ Intense mucositis pain can interfere with speaking, swallowing, and eating and significantly affect quality of life.
- ❖ Jin Won Kim et al determined association of oral mucositis with quality of life and symptom clusters in patients with solid tumors receiving chemotherapy. QOL in patients with OM was significantly lower than patients without OM
- ❖ In our study patients had good quality of life after starting opioids as patients were pain free.
- ❖ Initial intravenous morphine consumption can be as high as 26 mg per day.

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