A retrospective study on drug utilization evaluation of analgesics for palliative pain management

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INTRODUCTION

The perception of pain is always a point of concern. Chronic malignant pain occurs in a potentially life-threatening illness. The aim of this present study is to evaluate the use of analgesics for the management of pain in the palliative care patients. The secondary objective was to evaluate the choice of analgesic selection for the management of various kinds of pain in these patients. Objective: The perception of pain is always a point of concern. Chronic malignant pain occurs in a potentially life-threatening illness. The aim of this present study is to evaluate the use of analgesics for the management of pain in palliative care patients. Study Design: A retrospective study has been carried out with the help of patient’s case sheets. Case sheets of 200 patients had been obtained for the study. Data were collected from the case sheets between the years 2012 and 2015. Results: It can be seen that 56.09% patients had lung carcinoma. The most common drug being given for palliative pain management is Morphine. The other drug that was given predominantly was Tramadol. Nonsteroidal anti-inflammatory drugs such as diclofenac and ibuprofen were also been given to the patients. Corticosteroids such as dexamethasone were also given, sodium valproate is also given for the management of neuropathic pain. Opioids were found to be much efficient than non-opioid analgesics (P < 0.001). Conclusion: This study concludes that the goal of physicians is “to cure sometimes, to relieve often, and to comfort always.” Careful attention to the science and art of pain management and comfort is every bit as important as cure. Death is inevitable; suffering is not.

KEY WORDS: Corticosteroids, Opioid analgesics, Pain management, Palliative care

ABSTRACT

Aim: The aim of this present study is to evaluate the use of analgesics for the management of pain in the palliative care patients. The secondary objective was to evaluate the choice of analgesic selection for the management of various kinds of pain in these patients. Objective: The perception of pain is always a point of concern. Chronic malignant pain occurs in a potentially life-threatening illness. The aim of this present study is to evaluate the use of analgesics for the management of pain in palliative care patients. Study Design: A retrospective study has been carried out with the help of patient’s case sheets. Case sheets of 200 patients had been obtained for the study. Data were collected from the case sheets between the years 2012 and 2015. Results: It can be seen that 56.09% patients had lung carcinoma. The most common drug being given for palliative pain management is Morphine. The other drug that was given predominantly was Tramadol. Nonsteroidal anti-inflammatory drugs such as diclofenac and ibuprofen were also been given to the patients. Corticosteroids such as dexamethasone were also given, sodium valproate is also given for the management of neuropathic pain. Opioids were found to be much efficient than non-opioid analgesics (P < 0.001). Conclusion: This study concludes that the goal of physicians is “to cure sometimes, to relieve often, and to comfort always.” Careful attention to the science and art of pain management and comfort is every bit as important as cure. Death is inevitable; suffering is not.

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INTRODUCTION

The perception of pain is always a point of concern. Pain is one of the most important symptoms in palliative care and has a major impact on the quality of life of cancer patients. In developing countries, difficult access to opioids and the lack of well-established palliative care organizations result in undertreatment of pain. Turkey is one of the countries with statistical evidence of inadequate morphine consumption per capita. Chronic malignant pain occurs in a potentially life-threatening illness such as sudden congestive cardiac failure, cancer, and organic failure. This pain can lead to depression especially in the end of life or palliative phase. The pain tends to become unmanageable even with the help of sedating agents or opioids, this condition is mainly seen in cancer patients, where the pain would tend to last for several hours. In pain associated with neurological disease, it is sometimes difficult to obtain even a subjective evaluation of pain, as is the case for patients in a vegetative state or end-stage Alzheimer’s disease. Cancer, Alzheimer’s disease and chronic obstructive pulmonary disease are the most common diseases of palliative care.

Pain management, therefore, is very essential in many clinical cases and is an interdisciplinary approach for easing the suffering and improving the quality of life of those living with pain. Pains are usually treated with drugs, usually analgesics. Analgesics have been considered as one of the most commonly prescribed drugs by the physicians. Corticosteroids have an established role in specific indications in cancer patients. It seems that dexamethasone may be commonly used for cancer pain management due to

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its high potency, long duration of action, and minimal mineralocorticoid effect.

The aim of this present study is to evaluate the use of analgesics for the management of pain in the palliative care patients. The secondary objective was to evaluate the choice of analgesic selection for the management of various kinds of pain in these patients.

**MATERIALS AND METHODS**

**Study Design**
A retrospective study has been carried out with patient’s case sheet.

**Sample Size**
Case sheets of 200 patients were obtained for the studies. Data were collected from the case sheet between the years 2013 and 2016 were retrieved for analysis.

**Data Collection**
A specifically designed pro forma was used to collect data such as demographic diagnosis, drug chart, and duration of death were analyzed from the case sheets. The ethical clearance for the study had been obtained IEC/DOPV/2016/09.

**Inclusion Criteria**
The following criteria were included in this study:
1. Patients admitted to the palliative unit.
2. Patients with medication intended for pain management.

**Exclusion Criteria**
The following criteria were excluded from the study:
1. Patients received corticosteroids for a reason other than pain.
2. Patients received barbiturates and benzodiazepines for a reason other than pain.
3. Patients below 18 years of age.

**RESULTS**
It can be seen from Graph 1 that there are more male patients. Graph 2 illustrates that the palliative agents are usually above 65 years.

Cancer is the most common reason for palliative care which can be elucidated from Graph 3.

Lung cancer is the most commonest type of cancer which is illustrated in graph 4.

Table 2 shows the utilization of various analgesics drugs. Table 4 and 5 shows that the efficacy of opioids over non opioids.

This table lists out the various pain management medications that are prescribed to the patient for alleviating pain. Fentanyl patches are also used in these patients.

Table 3 shows that the combinational analgesics are highly preferred. The primary goal in these patients is to alleviate pain and hence as high as four drugs are also used to reduce pain.

\( \chi^2 \) value is 28.7021; \( P < 0.001 \); hence, this rejects the null hypothesis and proves that there is a significant pain control with opioids in palliative care.

**DISCUSSION**
Table 1 show that there are more male patients in palliative care than the female patients which contradict to the results by Grov et al.[8] which showed that there were more female patients.

### Table 1: Characteristics of the patients

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Cancer (n=164)</th>
<th>Alzheimer disease (n=24)</th>
<th>Others (n=12)</th>
<th>P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean±SEM)</td>
<td>67.65±3.12</td>
<td>80.1±3.2</td>
<td>5.7±1.2</td>
<td>0.60</td>
</tr>
<tr>
<td>Heart rate (mean±SEM)</td>
<td>81.4±13.2</td>
<td>80.16±1.72</td>
<td>76.0±3.32</td>
<td>0.53</td>
</tr>
<tr>
<td>Time to death in days (mean±SEM)</td>
<td>5.5±3.12</td>
<td>11.2±1.6</td>
<td>5.0±3.0</td>
<td>0.82</td>
</tr>
<tr>
<td>Percentage with pain (in 24 h onset)</td>
<td>65.9</td>
<td>82.0</td>
<td>91.3</td>
<td>0.032*</td>
</tr>
</tbody>
</table>

*Mann-Whitney Rank Sum Test with cancer group and other and Alzheimer Disease group together. *P<0.05 significant. There is no significant variation among groups in mean age, mean heart rate, or time to death

### Table 2: Drug characteristics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Oral</th>
<th>Parenteral</th>
<th>Topical</th>
<th>Transdermal</th>
<th>Total number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diclofenac</td>
<td>12</td>
<td>32</td>
<td>4</td>
<td>-</td>
<td>48</td>
</tr>
<tr>
<td>Tramadol</td>
<td>66</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>78</td>
</tr>
<tr>
<td>Morphine</td>
<td>108</td>
<td>08</td>
<td>-</td>
<td>-</td>
<td>116</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>71</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>89</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>12</td>
<td>28</td>
<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Sodium Valproate</td>
<td>31</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>31</td>
</tr>
</tbody>
</table>
It can be seen that there were almost 82% cases of cancer followed by dementia and chronic obstructive pulmonary disease. The results comply with the results of the report by Higginson. This study overall considers questions such as the population’s needs, the services available or unavailable to them, the effectiveness of these services, and other perspectives in disease and service areas but contradict with the results by Romem et al. End of life pain is most effectively managed within a comprehensive palliative care team. This is due to the fact that patients at the end of their life often present with a number of complex problems. Comprehensive palliative care teams are staffed with a variety of specialists who are available to provide the patient with the most comprehensive care possible.

Lung cancer is reported as the most common carcinoma which approves with the results published by Yoder et al. Similarly, breast cancer is seemed to be the most common among women which is similar to the results of Gabriel et al. Differences in risk factors and gene expression suggest that breast cancer in young women may be a distinct entity. Radiographic diagnosis in this population is challenging due to increased breast density.

The most common drug being given for palliative pain management is Morphine which agrees with results of Nersesyen et al. The other drug that was given predominantly was tramadol. NSAIDs such as diclofenac and ibuprofen were also been chosen to the patients. Corticosteroids such as dexamethasone, sodium valproate is also given for the management of neuropathic pain.

We compared the use of opioid drugs with other analgesics and found that opioids are highly efficient...
in pain management. The most common adverse event seen was constipation which was similar to the results of Fine et al. it is hoped that it reminds us of the need for better attention to pain control and the possibility of real improvement in total pain control.

CONCLUSION

Pain is an important concern especially during the end of life care. The use of analgesics should be optimized. The use of opioids such as morphine and fentanyl has been gaining importance in palliative care. We conclude that death is an unavoidable thing in nature, but peaceful death can be attained through proper medical care.

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