Symptomatology of Advanced Gastrointestinal and Hepatobiliary Cancers in Palliative Care: Single Center Tertiary Care Experience from Eastern India

Chaitanya Patil and Shrikant Atreya

ABSTRACT

The spectrum of symptoms for an oncologist or oncosurgeon about gastrointestinal (GI) and hepatobiliary (HB) cancers varies from the spectrum of symptoms that a palliative care physician ascertains. There is a paucity of data regarding GI and HB cancer symptomatology in a palliative care outset. Hence, we conducted this study to understand the same and identify the most common symptom clusters among these cancers. The present study was retrospective observational study conducted on patients referred to palliative care department of Tata medical center, Kolkata, India. A total of 495 patient’s case records were reviewed with GI and HB cancers. Age, gender, co-morbidities, Eastern Cooperative Oncology Group (ECOG) status, symptomatology, physical examination findings, and histopathological diagnosis were reviewed from the case records and documented. Symptomatology included pain, nausea, vomiting, anxiety, depression, constipation, anorexia, early satiety, and loose stools. The mean age of the patients was 57.73 ± 12.50 years with male: female ratio of 1.60. The most common organ system involved was gall bladder (22.63%) followed by pancreas (16.97%). The most common symptom was abdominal pain (63.64%) followed by anorexia (28.08%) and constipation (23.21%) and the least common ones were loose stools (3.84%) and neuropsychiatric symptoms (4.85%). Nausea-vomiting cluster (38.10%) and abdominal pain-nausea/vomiting (28.38%) cluster were most common among stomach carcinomas. Abdominal pain-constipation cluster (23.13%) was more common among gall bladder carcinomas. Future studies directing to identify these symptoms and clusters over the quality of life of advanced cancer patients are warranted.

Keywords: Gastro-intestinal cancers, Hepatobiliary cancers; Palliative care; Symptomatology; Symptom clusters.

I. INTRODUCTION

Palliative care is an interdisciplinary approach to improve the quality of life and lessen the suffering among people with a life-threatening illness [1], [2]. Physical, psychological, social, and spiritual aspects are four broader forms of palliative care [3], [4]. The spectrum of symptoms for an oncologist or oncosurgeon about gastrointestinal (GI) and hepatobiliary (HB) cancers varies from the spectrum of symptoms that a palliative care physician ascertains. A palliative care physician believes in a holistic approach to the patients in need [5], [6]. Ideally, palliative care starts at the time of diagnosis. However, in settings across middle-income countries like India, there is a gap between specialist palliative care physicians and the number of patients in need. Hence, the initiation of palliative care is started late in the trajectory of the disease [1], [4]. The majority of the studies report the symptomatology of cancer patients in surgical, radiation, and medical oncological settings [7]-[12]. There is a paucity of data regarding GI and HB cancer symptomatology in a palliative care outset. Hence, we conducted this study to understand the symptoms of different GI and HB cancers and identify the most common symptom clusters.

II. METHODOLOGY

A. Subjects

The present study was retrospective observational study. Case records of patients referred to palliative care department of Tata medical center, Kolkata, India were reviewed. Patients with GI and HB during the period of April 2014 to April 2017 were included in the study. A total of 506 records were, of which 11 records were excluded since they were having metastasis to gastrointestinal organs but with unknown primary. Hence, a total of 495 cases are included on the final analysis.
B. Research Methods

Age, gender, co-morbidities, Eastern Cooperative Oncology Group (ECOG) status, symptomatology, physical examination findings, and histopathological diagnosis were reviewed from the case records and documented. Symptomatology included pain, nausea, vomiting, anxiety, depression, constipation, loose stools, anorexia and early satiety. The most common symptoms were clustered based on various permutations. These symptom clusters were cross tabulated with various types of GI and HB cancers and differences were interpreted.

C. Statistical Analysis

All data was collected, compiled and analysed using Epi info (version 7.2). The quantitative data was either categorised into groups and expressed in terms of mean and standard deviations. The qualitative data was expressed in terms on percentages or proportions. To test the difference between proportions, we used chi square test. All the tests were 2 tailed and 0.05 was set as the significance level.

III. RESULTS

We included a total of 495 cases in our study.

TABLE I: DEMOGRAPHIC CHARACTERS OF THE RECORDS ASSESSED

| Demographic characters | Frequency | Percentage |
|------------------------|-----------|------------|
| Age group (in years)   |           |            |
| 20 to 30               | 8         | 1.62       |
| 30 to 40               | 32        | 6.46       |
| 40 to 50               | 87        | 17.58      |
| 50 to 60               | 134       | 27.07      |
| 60 to 70               | 152       | 30.71      |
| 70 to 80               | 69        | 13.94      |
| >80                    | 13        | 2.62       |
| Gender                 |           |            |
| Female                 | 190       | 38.38      |
| Male                   | 305       | 61.62      |
| ECOG status at first visit |       |            |
| 0                      | 23        | 4.65       |
| 1                      | 163       | 32.93      |
| 2                      | 173       | 34.95      |
| 3                      | 93        | 18.79      |
| 4                      | 43        | 8.69       |

The mean age of the patients was 57.73±12.50 years with male: female ratio of 1.60. Majority of the patients were ECOG 1 (32.93%) and ECOG 2 (34.95%) in the present study.

The most common organ system involved was gall bladder (22.63%) followed by pancreas (16.97%).

TABLE II: DISTRIBUTION OF THE PATIENTS BASED ON THE SYMPTOMATOLOGY OF GASTROINTESTINAL AND HEPATOBILIARY CANCERS (N=495)

| Symptoms                  | Number | Percentage |
|---------------------------|--------|------------|
| Abdominal pain            | 315    | 63.64      |
| Constipation              | 107    | 21.62      |
| Nausea                    | 78     | 15.76      |
| Vomiting                  | 64     | 12.93      |
| Anorexia                  | 139    | 28.08      |
| Loose stools              | 19     | 3.84       |
| Neuropsychiatric symptoms | 24     | 4.85       |

The most common symptom was abdominal pain (63.64%) followed by anorexia (28.08%) and constipation (21.62%) and the least common ones were loose stools (3.84%) and neuropsychiatric symptoms (4.85%).

We clustered major four symptoms and cross tabulated them based on the most common organ system involved. Nausea-vomiting cluster (38.10%) and abdominal pain-nausea/vomiting (28.38%) cluster were most common among stomach carcinoma. Abdominal pain-constipation cluster (23.21%) was more common among gall bladder carcinoma.

TABLE III: DISTRIBUTION BASED ON THE CLUSTERING OF SYMPTOMS IN DIFFERENT TYPE OF GASTROINTESTINAL AND HEPATOBILIARY CANCERS

| Symptom clusters            | Different types of cancers |
|-----------------------------|---------------------------|
|                             | Gall bladder | Pancreas | Rectum and anal canal | Stomach | Others | P value* |
| Nausea-vomiting cluster (N/V) | 37          | 33.04    | 13                    | 17.33   | 9      | 14.06 | 32 | 38.10 | 30 | 18.75 | <0.001* |
| Abdominal pain              | 29          | 27.88    | 9                     | 12.68   | 7      | 11.29 | 21 | 28.38 | 22 | 14.47 | <0.001* |
| Nausea/vomiting clusters (Abd-N/V) | 6      | 5.36     | 4                     | 5.33    | 1      | 1.56  | 7  | 8.33  | 4  | 2.50  | 0.1972 |
| Anorexia                    |             |          |                       |         |        |       |    |       |    |       | 0.0376* |
| Nausea/vomiting clusters (Anor- N/V) | 26    | 23.21    | 9                     | 12.00   | 12     | 18.75 | 19 | 22.62 | 18 | 11.25 | 0.0828 |
| Abdominal pain              |             |          |                       |         |        |       |    |       |    |       | 0.1972 |
| Constipation                 |             |          |                       |         |        |       |    |       |    |       | 0.0376* |
| Nausea/ Constipation        |             |          |                       |         |        |       |    |       |    |       | 0.0828 |

#- Chi square test applied. *Significant.
IV. DISCUSSION

The approach and management of symptoms of gastrointestinal and hepatobiliary cancers for a palliative care physician is different from an oncosurgeon, medical oncologist or a radiation oncologist. Hence, it is important to understand the symptomatology of advanced cancers of these sites. The most common symptom overall was abdominal pain (63.64%) followed anorexia and constipation in our study. A study by Jimenez et al [13] studied the symptom clusters among cancer patients in their centre. They divided the clusters into confusion cluster (agitation, confusion, and urinary incontinence), neuropsychiatric cluster (depression, anxiety and sleep disturbances), anorexia-cachexia cluster and general gastrointestinal symptoms like nausea, vomiting, constipation etc. It was interesting to note that neuropsychiatric symptoms were present in 79% of the patients with gastro intestinal cancers followed by general gastro intestinal symptoms and anorexia-cachexia symptoms. Our study was contradictory to this study with neuropsychiatric manifestations. This could be due to the fact that this was record based and majority of the neuropsychiatric symptoms may not be noted in the medical records unless they are severe enough. Our study added some facts that nausea/vomiting cluster, abdominal pain-nausea/vomiting cluster and abdominal pain-constipation cluster were most common in gall bladder and stomach carcinomas. The study done by Jimenez et al [13] reported that anorexia-cachexia cluster and gastro intestinal cluster was present in 54% and 52% of their sample, respectively.

Another study highlighted the most common symptoms in GI cancers in palliative care was psychiatric symptoms like depression, anxiety etc. But, studies done by Tai SY et al [14] report the most common symptoms to be anorexia followed by pain and constipation and least common symptoms to be anxiety and depression. Upon detailed review Tai SY et al [14] inferred that the proportion of the patients with anxiety and depression was significantly higher in GI cancers when compared with Lung cancers. A study done by Chaiviboontham S. et al [15] inferred that the pain was the most common symptoms reported and depression was the least common. Steel IL et al [7] in their study found three symptom clusters among patients with HB cancers which were asymptomatic, symptomatic and fatigue clusters.

Our study had some limitations. One of them is it is record based which will affect the generalizibility of the study. Another limitation is that we studied only the baseline symptoms since it was difficult to extract the follow up data. Future studies can be focussed on follow up visits in a prospective design would yield practical results. Nonetheless, this study is one of few studies reflecting the symptomatology of patients referred for palliative care. This study also highlights the most common type of clusters of symptoms that have to look for in different types of GI cancers.

V. CONCLUSIONS

The most common organ system reported in the present study was gall bladder and pancreatic cancers. Abdominal pain was the most common symptom for which the patient was referred to palliative care department. Least common yet important symptoms were neuropsychiatric symptoms which were assessed during the visit to palliative care physicians. Nausea-vomiting cluster and abdominal pain-nausea/vomiting cluster were most common among stomach carcinoma. Abdominal pain-constipation cluster was more common among gall bladder carcinoma. Future studies directing to identify these symptoms and clusters over the quality of life of advanced cancer patients are warranted.

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