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PATIENT JOURNEY TO TREATMENT IN PANCREATIC AND GASTRO-OESOPHAGEAL CANCER

General Surgery

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ABSTRACT

BACKGROUND: A patient's journey from cancer diagnosis to treatment should flow quickly and efficiently. Australian guidelines for management of oesophagogastric (OG) and pancreatic cancer recommend specific time targets. For OG cancer this is multidisciplinary discussion (MDM) within four weeks of referral and treatment within two weeks. For pancreatic cancer the recommendation is MDM within one week and treatment within four weeks. The aim of this study is to investigate patient's journey from diagnosis to treatment and identify barriers to meeting these Australian guidelines.

METHODS: All patients with OG and pancreatic cancer referred treated in an Australian Tertiary Hospital over a calendar year (twelve month) period were reviewed. The hospital's MDM database and patient records were reviewed for referral date, multidisciplinary discussion date and initiation of treatment date. Barriers to timely treatment were identified.

RESULTS: In a calendar year a total of 137 new patients were identified. Median time from referral to first MDM was 7 days. For pancreatic cancer 67% met the recommended one week from referral to MDM, while 96% of other OG cancers met the four week time frame. Timely treatment was achieved for 82.5%, with main delays being diagnostic testing (imaging, histology, endoscopic ultrasound), oncological treatment, endoscopic management, and surgery.

CONCLUSIONS: The majority of patient's progress efficiently from diagnosis to treatment. Barriers include delays to diagnostic tests and access to surgery.

KEYWORDS

General surgery, hepatopancreatic biliary surgery, multidisciplinary team, upper gastroesophageal cancer

INTRODUCTION

Prompt treatment of pancreatic and esophagogastric cancer (OG) is essential for good outcomes. [1, 2] In Australia, pancreatic cancer is the most common of the upper gastro-intestinal (UGI) malignancy, followed by stomach, liver, oesophageal, gall bladder, and small intestine.[3]

The Cancer Council of Australia publishes optimal treatment pathways for UGI malignancies which set goals for time from diagnosis to multidisciplinary discussion (MDM) and subsequent treatment. For pancreatic cancer, these guidelines stipulate a time of less than one week from referral to first MDM discussion, followed by definitive treatment within four weeks of MDM discussion.[4] For OG cancer, MDM discussion is recommended within four weeks of diagnosis , followed by a delay of less than two weeks from MDM discussion to initial treatment.[5]

Our hospital is a 450 bed tertiary institution servicing a population of approximately 700000 and receiving referrals from three secondary hospitals. Patients with suspected of UGI malignancy are referred from their general practitioner, other inpatient teams including gastroenterology, or from secondary hospital teams.

This study aims to investigate progression from time of diagnosis to treatment for pancreatic cancer and gastro-oesophageal cancer and identify barriers to timely treatment.

METHODS

The study was performed as a retrospective review of consecutive pancreatic and gastro-oesophageal cancers over a period of twelve months. Patients were identified from the hospital's upper-gastrointestinal multi-disciplinary team meeting records. Patient notes were used to gather demographic data, dates of referral, first clinic appointment, and date of definitive treatment.

The number of days elapsed between referral of patient and MDM discussion was recorded, as was the number of days from MDM to definitive treatment. The date of first referral was defined as the date that the electronic referral was received by the surgical team. The definitive treatment date was defined as the date of endoscopic management, curative surgery, or the date of first outpatient appointment for either chemotherapy, radiotherapy or palliative treatment. The barriers to timely treatment were identified for each patient where elapsed times exceeded guidelines.

Records were independently reviewed by two authors and any disputes settled by the senior author.

The local institution approval board provided ethics approval for this study.

RESULTS

There was a total of 137 cancer patients identified over the 12-month period, with 7 patients having incomplete records and thus being excluded. Of the remaining 130 patients the median time in days from referral to first MDM was 7 days (range 0-67). Table `1 shows the frequency of maligcancy in the study.

Table 1. Breakdown Of Malignancy

Organ	Patient numbers
Pancreas	50
Gall bladder/bile ducts	25
Liver/MET	19
Gastric	18
Oesophageal	16
GOJ	6
Duodenal	3
TOTAL	137

The number of days elapsed from first MDM to definitive treatment was documented for 97 patients with UGI cancer with a median of 17 days (range 1-72 days). Overall, for all UGI cancer cases timely treatment (within 30 days of first MDM) was achieved for 82.5% (n=80).

Of the 17 patients where treatment was delayed beyond 30 days, 13 had delays in receiving treatment and four had diagnostic delays. Delays in receiving treatment were identified as delays to chemotherapy (four cases), palliative chemotherapy (four cases), interventional endoscopy (two cases), palliative care, neoadjuvant chemotherapy, and surgery (one case each). Of the four cases with delays to diagnosis, three went on to have surgical treatment. One case (72 days) was delayed due to difficulty in determining operative status, two cases (66 & 52 days) were delayed due to further imaging, and one case (57 days) was delayed pending endoscopic ultrasound.

Further analysis was performed on the patient subgroups of pancreatic

cancer and all other malignancies.

Pancreatic Cancer Cases

As the optimal care pathway for suspected pancreatic cancer has a shorter time to MDM and treatment these results are presented separately to the other cancers. From the 50 pancreatic cancer patients the median age of referral was 71 years (range 26 to 91 years).

The median number of days from referral to first MDM discussion was 6 days (range 0-31), with 67% meeting the Optimal Care pathway time criterion of discussion at MDM within one week (data available for 43 patients, n=29). Of the patients where MDM discussion was delayed, the causes for delay were pending imaging (three cases), pending histopathology (two cases), and treatment for another co-morbidity (one patient). For the remaining patients the reasons for delay to first MDM discussion was not able to be determined by reviewers.

The median time to definitive treatment for pancreatic cancer patients was 17 days from first MDM discussion (range 2 to 55). Timely treatment, within four weeks from first MDM was achieved 63% of the time (19/30). Failure to meet guidelines was due to delay in endoscopic intervention (three patients), chemotherapy (two patients), surgery (two patients) and palliative care (one patient). Of those delayed for surgery, both were delayed due to transfer of surgical care to a centralised site.

Oesophagogastric cancer Cases

Of these cancers 96% (n=69 with data available for 72 patients) met the time criterion stipulated in the Oesophagogastric Cancer Optimal Care Pathway from the Cancer Council of discussion at MDM within four weeks. Reviewers were able to identify time from first MDM discussion to definitive treatment in 70 of these patients. Of these, 39% (27/70 patients) met the two week time to definitive treatment from MDM discussion criterion. Of the 43 patients who did not receive treatment within the recommended period, the most frequent treatment modality delayed was oncology 58% (25 cases), followed by endoscopic management 14% (9 cases), summarised in Table 2. Four patients died prior to definitive treatment (before two weeks).

Table 2: Treatment Type And Median Time To Treatment For Gastro-oesophageal Cancer.

Type of treatment	Frequency	Median number of days to treatment (range)
Oncology (Chemo+/radiotherapy)	25	24.5 (15-55)
Further investigation with EUS	6	102 (23-220)
Stent	3	22 (19-48)
Surgery	3	17 (16-41)
Patient declined surgery	3	171 (72-657)
Palliation	2	40.5 (25-56)
Embolisation	1	28

DISCUSSION

The Optimal Cancer Care Pathway from the Cancer Council of Australia recommends that OG cancer patients should be reviewed by an UGI surgeon with access to MDM discussion within four weeks of diagnosis or high level of suspicion.[5,6] Specialist review should not be delayed for imaging or pathological workup. Results of all investigations should be available prior to MDM discussion, and definitive treatment should occur within two weeks of MDM discussion.[5] For pancreatic cancer the optimal time frame is reduced due to the late presentation of disease and need for rapid treatment. A specialist surgical review should ideally be conducted within a week of diagnosis or high index of suspicion with further diagnostic workup to occur within a week of suspicion. Definitive treatment should occur within four weeks of referral.[4]

Challenges exist to presenting the patient at the MDM in a timely manner. In our study this included timely imaging and histopathology results.

The effective use of information technology may improve access to these results in a timely manner.[7,8] Since this study period our institution has begun using a dedicated laptop during MDM where the MDM outcomes are recorded and electronic referrals can be made in real time.

Given the late presentation of UGI cancers, especially pancreatic cancer with only eight to 12% of cancers suitable for surgical resection early involvement of palliative care is appropriate. From this study 12% of pancreatic cancer patients died prior to receiving palliative care. Currently there is no palliative team representative present at the MDM discussion. Reasons for delayed palliative referral and review were not able to be determined by our reviewers. There is significant evidence that early involvement of palliative care is associated with improved outcomes for patients and families. [9-11] Given this the involvement of the palliative care team in the UGI MDM seems prudent to ensure that timely palliative care input is achieved.

This study has also identified that access other specialty services is critical to cancer care but often delayed. In our institution access to timely endoscopic intervention both in terms of diagnostic procedures such as endoscopic ultrasound and treatment procedures such as stenting was a source of delays. Similarly access to chemotherapy was another source of delay. Hospital networks must be mindful of how resource distribution can affect access to timely treatment.

The strengths of this study include the systematic approach and the use of consecutive patients over a calendar year. The careful examination of the patient notes by independent reviewers to establish the patient journey timeline was also a strength.

The limitations of our study include the inclusion of a single institution and the retrospective nature. A particular limitation was the lack of documentation of palliative care provided after the decision for palliation was made, thus making it impossible to identify the cause of the delays. Future studies assessing the patient journey to definitive treatment should ideally be conducted prospectively.

In conclusion a patient's cancer journey is complex and requires broad input to flow effectively. Imaging and pathology results should be co-ordinated to allow early MDM discussion. In addition to the disciplines of surgery, oncology, radiology and pathology, palliative care should also be present at MDM discussion. Referrals to other specialities recommended by MDM should be made automatically and the hospital should allocate sufficient resources to these departments to avoid further delays to treatment of UGI cancer patients.

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