Delay in Diagnosis of Upper Gastrointestinal Cancer: whose fault is it?

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SUMMARY

Background: Stomach and esophageal cancers are both deadly and difficult to diagnose early. Stomach cancer is the second most common cancer in Asia. Both these are one of the most common causes of cancer related death in the world.

Aim: To determine the mean time delay from appearance of the symptoms to the endoscope procedure [OGDS] and rationalized the reason for this delay in diagnosis.

Method: This is a cross sectional study of stomach and esophageal cancer data from Jan 2004- July 2008. All patients' records of histologically confirmed stomach or esophageal cancers during the study period were reviewed.

Result: Total of 112 consecutive patients with stomach and esophageal cancer were analysed. 86 cases of stomach and 26 cases of esophageal cancer were reviewed. The average age for stomach and esophageal cancers are 60.8 years and 58.4 years respectively. The mean duration from the first appearance of cancer symptoms to endoscope procedure was 32.4 weeks for stomach cancer patient and 16.7 weeks for esophageal cancer patients. The reasons for the delays are due to 1) self-medication, 2) Empirical treatment for dyspepsia using antacid and H2 antagonist, 3) Delay in endoscope procedure for high risk patients.

Conclusion: Reducing the delay in endoscope procedure may lead to early detection of cancer and thereby may improve the prognosis of these patients.

KEY WORDS:
Stomach cancer, Delay in endoscope, Early Gastric cancer

INTRODUCTION

Patients with stomach and esophageal cancers are usually present late to hospitals due its discernible symptoms from benign diseases. Thus early diagnosis of these cancers is difficult in low to moderate incidence region. Prognosis of these patients depends solely on the stage of the cancer during diagnosis.

In high incidence region such as Japan; there are mass screening endoscope programme where stomach cancers are diagnosed in early stages. Mass screening is not cost effective in low and moderate incidence regions such as Malaysia.

In Malaysia, stomach cancer is one of the top ten most common cancers in both male and female. The incidence of stomach cancer increases with age and slightly higher in males compared to females. Chinese has the highest incidence of stomach cancer with age standardised rate (ASR) of 6.4 and 2.0 for male and female respectively followed by Malays and Indians. As for Esophageal cancer; the Indians has the highest with ASR of 2.8 and 3.7 for male and female respectively followed by Chinese and Malays[1].

Most of these cancers were detected at advanced stages, in the recent National cancer 2007 report about 75% of the Upper Gastrointestinal cancers were stage III and IV. The prognosis of stomach cancer remains poor, due predominantly to late presentation[3,4]. The main mode of diagnosis is via an endoscope procedure[1].

The aim of this study is (1) To determine the mean time delay from first appearance of cancer symptoms to the endoscope procedure such as Oesophagogastroduodenal scope (OGDS) and at the same time to rationalize factors for the delay in diagnosis.

METHODOLOGY

This is a retrospective cross sectional study of stomach and esophageal cancer data from Jan 2004- July 2008. All consecutive patients' records of histologically confirmed stomach or esophageal cancers during the study period in Hospital Tuanku Ja'afar were reviewed.

All patients' record were reviewed and entered into study output spreadsheet. The required details were age, race, first appearance of symptoms according to the primary health care physician referral letter, type of symptoms, duration of symptoms before treated in primary care centers, treatment detail/medication in primary health center, date of first surgical specialist clinic appointment date, date of endoscope procedure. End point of this study was diagnosis of stomach or esophageal cancer which was taken as the date of endoscope procedure. This was due to the fact that not all patients will undergo surgery and histological diagnosis was the inclusion criteria.

The overall delay (in weeks) was recorded for each patient and divided into four periods as follows:
- Patient factor - The time from first appearance of symptoms to first visit to health centre or private primary care clinics.

Table I: showing the various factors for delay in diagnosis with time denominators

Esophagus cancer	Min	Max	Mean	SD	95%CI	Median
Patient factor	2	15	5.86	2.349	4.91-6.81	5
Primary care factor	2	8	4.22	1.722	3.52-4.91	4
Surgical clinic factor	2	8	3.97	1.375	3.41- 4.53	4
Endoscopy factor	1	4	2.68	0.704	2.40 - 2.96	3
Total [first appearance of symptoms to OGDS]in weeks	10	26	16.73	2.976	15.52 -17.93	17
Stomach cancers	**Min**	**Max**	**Mean**	**SD**	**95% CI**	**Median**
Patient factor	4	50	15.23	9.561	13.18 -17.28	12
Primary care factor	4	44	11.20	7.017	9.70 -12.70	8
Surgical clinic factor	2	6	3.37	0.830	3.19 - 3.55	3
Endoscopy factor	1	6	2.63	0.763	2.47 - 2.80	3
Total [first appearance of symptoms to endoscopy] In weeks	12	76	32.43	11.904	29.88 - 34.98	30

- Primary health care factor - The time from first visit to primary health care centre to referral to surgical specialties clinic
- Surgical clinic factor – The time from last visit to health centre to first visit to surgical specialist clinic
- Endoscope factor - The time from first visit to surgical specialist clinic to endoscopy procedure

All data were analysed using SPSS ver 17. We used statistics appropriate for non-parametric data. Mann-Whitney-Wilcoxon test used for two independent grouped data samples.

RESULTS
Total of 112 consecutive patients with 86 stomach cancer and 26 esophageal cancers were reviewed. Mean age for stomach and esophageal cancer patients were 60.8 years (SD: 14.744) and 58.4 years (SD: 12.049) respectively. The oldest stomach cancer patient was 91 years old and youngest was 19 years old. The oldest esophageal cancer patient was 84 years old and youngest was 25 years old. In stomach cancer group there were 56.3% male and 43.7% female patients. In esophageal cancer group there were 71.1% male patients and 26.3% female patients. Ethnic distribution of these patients were Malay 16.6%, Chinese 55.0% and Indian 27.8% for stomach cancer and Malay 26.3%, Chinese 23.7% , Indian 44.7% for esophageal cancer. Chinese had the highest incidence of stomach cancer in both males and females in Malaysia. Malays has the lowest incidence of stomach cancers as compared to Chinese and Indians. As for esophageal cancers Indians has the highest incidence (44.7%) in our centre.

The mean delay from first appearance of cancer symptoms to primary care consultation were 15.2 weeks for stomach cancer patients and 5.9 weeks for esophageal cancer patients. Mean delay from health centre to referral to surgical specialist clinic (Primary health care delay) for stomach and esophageal cancer patients were 11.2 weeks and 4.2 weeks respectively.

Mean waiting time for specialist clinic appointment was 3.37 weeks for stomach cancer patients and 3.97 weeks for esophageal cancer patients. Mean waiting time for endoscope procedure was 2.6 weeks for stomach and 2.7 weeks for esophageal cancer patients.

The mean total delay from the time first appearance of cancer symptoms to the OGDS procedure were estimated about 32.4 weeks for stomach cancer patients and 16.7 weeks for esophageal cancer patients. (Table I)

DISCUSSION
In hospital Tuanku Ja'afar Seremban (HTJS); more than 95% of the upper GI cancers presented in advanced disease/stages. Similar findings were noted in few regional studies thus these patients have poor prognosis due to late presentation to hospital subsequently delay in diagnostic procedure [2,3].

The mean duration from the first appearance of cancer symptoms to endoscope procedure was 32.4 weeks for stomach cancer patients and 16.7 weeks for esophageal cancer patients. This value does not include the time taken for the histological confirmation by pathologist. Indeed these values clearly suggest that early diagnoses of these cancers may be crucial for better outcome and curative surgery success rate[4].

Almost everyone has abdominal discomfort at least once in a year or once in their lifetime and most of them will self medicate initially. Failing this, they will seek either a private practitioner or a primary health centers near their home. Patients present late to primary care centers because cancer symptoms are often difficult to distinguish from that of benign diseases.

In the primary health care centers or a private practitioners' clinic most of these patients were treated for some time with medications such as Antacids, H2 antagonist and proton pump inhibitors. Some of these patients go back to the center for recurrent of symptoms which will be treated again with same or different medication until the symptoms gets more persistent or severe.

Alarm symptoms have been associated with increased likelihood of detecting gastric cancer, especially in those whose symptoms acute onset[6]. Those who are high risk

usually patients above the age of 65yrs with persistent dyspepsia. However, these symptoms alone has low overall diagnostic yield.

In regions with low incidence of gastric cancer, there is no urgency in treatment for these groups of patients because there are no guidelines for referral or protocols to identify high risk group patients whom will warrant an earlier endoscope. Thus, in the specialist clinics; appointments were given without screening for these high risk patients, leaving some of the cancer patients having late appointments to get specialist consultation.

The exercise of empirical treatment of antacids has been a routine or more of a culture in Malaysian health care setting. Prescribing antacid or H2 antagonist has been widely practice in all level of health care.

Bramble and colleagues (1992) in a retrospective primary care based survey revealed that 55% of patients who attended Open Access Gastroscope in United Kingdom were treated with acid suppression drugs before gastroscopy. The diagnosis of gastric cancer was made in all patients not taking previous acid suppression therapy at first gastroscopy. However, 37% of patients with gastric cancer, who were previously taking acid suppression therapy, were missed at first gastroscopy [5]. This led to a mean delay in diagnosis of 26 weeks from the commencement of medication.

Medical officers and general practitioner should therefore refrain from prescribing acid suppression drugs to patients who above 50 years old with dyspeptic symptoms before the endoscope procedure; to avoid missing early stomach cancers. Medical officers and general practitioner should be more cautious especially those patients who are coming repeatedly to their clinics for antacid and acid suppression drugs.

The delay of endoscope procedure can be overcome by increasing the awareness of stomach and esophageal cancers among patient through health education and mass media. The need for proper referral system for early endoscope for high risk patients will be useful for those medical officers in primary care centre. Getting the high risk patients for early endoscope procedure will surely benefit the patients and increase our quality of care in tertiary centers.

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