

Original Article

Acute Upper Gastrointestinal Bleeding in Kuwait – 1995

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ABSTRACT

Background: Upper gastrointestinal bleeding is a major medical emergency and one of the most important indications for hospital admissions. The etiology varies in different parts of the world.

Objectives: We aimed at determining the incidence and outcome of acute upper gastrointestinal bleeding in Kuwait.

Patients and Methods: This is a retrospective study. The medical records of all patients, 16 years of age and older, admitted with upper gastrointestinal bleeding to four hospitals during 1995 were reviewed. Demographic data, endoscopic findings, number of blood units transfused,

and the outcomes of the acute episodes were documented.

Results: There were 215 cases of acute upper gastrointestinal bleeding admitted to the four hospitals during 1995, giving an overall incidence rate of 28.3 per 100,000 population. The most common causes were peptic ulcer disease (19%), and esophageal varices (7%). There were ten fatalities, mostly due to co-morbidities.

Conclusion: Upper gastrointestinal bleeding in Kuwait is most commonly due to peptic ulcer disease and varices. The mortality rate is significantly lower than what has been reported from developed countries, such as the U.K.

KEYWORDS: gastrointestinal bleeding, Kuwait

INTRODUCTION

Upper gastrointestinal bleeding is a major medical emergency and one of the most important indications for hospital admission. The etiology of upper gastrointestinal bleeding varies in different parts of the world. As only a limited number of studies have been performed on upper gastrointestinal bleeding in the Gulf region, and as the demographic characteristics of the population of Kuwait are unique and distinct from Western countries, we conducted a retrospective study to determine the incidence, etiology and the outcome of acute upper gastrointestinal bleeding in Kuwait.

MATERIALS AND METHODS

This study was conducted in Kuwait during 1995. Kuwait has a population of 1.35 million people who live in five governorates; the Capital, Ahmadi, Hawalli, Farwania, and Jahra, and are served by Amiri, Adan, Mubarak Al-Kabeer, Farwania and Jahra hospitals, respectively.

The medical records of all patients, 16 years of age and older, who were admitted with acute upper gastrointestinal bleeding during the period between January 1, 1995 and December 31, 1995 were reviewed and the following data were obtained:

1. Demographic data (age, sex, and nationality)
2. Endoscopic findings
3. Number of blood units transfused
4. The outcome of the acute episode (cessation of bleeding, surgery and/or death)

We conducted this study in four hospitals, Amiri, Adan, Mubarak Al-Kabeer and Farwania hospitals, which are serving populations of approximately 193,000, 264,000, 467,000 and 430,000 people, respectively. The population at risk (older than 16 years) was estimated to be 760,000 individuals according to the national census for 1995.

RESULTS

There were a total of 215 patients who had sustained 231 episodes of acute upper gastrointestinal bleeding during the year 1995; 62 in Amiri, 65 in Mubarak Al-Kabeer, 55 in Farwania and 33 in Adan hospitals. There were 187 (86.9%) males and 28 (13.1%) females, aged 16 to 95 with a mean and median age of 45 years (Tables 1 and 2).

Endoscopic findings:

Peptic ulcer disease and varices were the leading causes of upper gastrointestinal bleeding (Table 3).

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Table 1
Age and sex distribution among age groups

Age Groups	Male	Female
16-29	29	6
30-44	85	10
45-59	38	3
60-64	11	2
65-74	11	2
>74	13	5

Age range: 16-95; Mean: 45 years; Median: 45 years.

Table 2
Number of patients by nationality

Nationality	No. of Patients	%	Nationality	No. of Patients	%
Kuwaiti	88	40.90	Jordanian	5	2.30
Egyptian	41	19.00	Iraqi	3	1.39
Bangladeshi	21	9.76	Stateless Bedouins	3	1.39
Indian	11	5.10	Saudi	3	1.39
Syrian	7	3.25	Palestinian	2	0.93
Filipino	6	2.79	Lebanese	2	0.93
Iranian	5	2.32	Others	13	6.04
Pakistani	5	2.30			

Table 3
Endoscopic diagnoses

Diagnosis	No. of Patients (%)	Actively Bleeding
PUD	133 (61.8)	19
DU	121 (56.2)	18
GU	12 (5.58)	1
Varices	51 (23.7)	8
Esophageal	43 (20.0)	7
Fundal	8 (3.7)	1
Esophagitis	27 (12.5)	1
Erosive gastritis	15 (6.97)	0
Mallory Weis tear	5 (2.3)	1
AVM*	4 (1.86)	0
Gastric Malignancy	3 (1.39)	1

NB.: There is overlap i.e. one pt. might have more than one diagnosis.
*AVM: Arteriovenous malformation.

Table 4
Endoscopic diagnosis in actively bleeding patients.

Diagnosis	No. of Patients	% To bleeders (30)	% To Total (215)
PUD	19	63.33	8.83
DU	18	60	8.37
GU	1	3.33	0.46
Varices	8	26.66	3.72
Esophageal	7	23.33	3.25
Fundal	1	3.33	0.46
MW Tear*	1	3.33	0.46
Esophagitis	1	3.33	0.46
Gastric Malignancy	1	3.33	0.46
Total	30	100	30.95

*MW Tear: Mallory Weis Tear.

Characteristics of the actively bleeding patients at time of endoscopy:

A total of 30 patients were actively bleeding at time of endoscopy (Tables 4 and 5).

Table 5
Cause of death (N = 10)

Cause of Death	No. of Deaths
Uncontrolled bleeding:	
Varices	2
DU	1
Unknown*	1
Pulmonary embolism	1
DIC and sepsis	2
Co-morbidities**	3

* Endoscopy not done

**Include CVA, IHD, left ventricular failure, DM and hypertension

Table 6
Indications for surgery

Indication for Surgery	No. of Patients
Bleeding DU	8
Bleeding DU & AVM*	1
Gastric Malignancy	3
GU	1
AVM*	1
Gastric Leiomyoma	1
Total	15

*AVM: Arteriovenous malformation

Blood requirements:

Of the 30 patients who were actively bleeding at the time of endoscopy, 24 were transfused with a total of 92 units of blood (range: 1-28, mean: 3.83 units). The mean for all 30 patients was 3.06 units.

Of the 185 patients who were not actively bleeding at time of endoscopy, 117 were transfused with a total of 373 units of blood (range: 1-14, mean: 3.18). The mean for all 185 patients was 2.01 units.

Hospital stay:

The hospital stay for those who were actively bleeding at the time of endoscopy ranged between two and ten days with a mean of 7.3 days. This contrasts to hospital stays of 1-38 days, mean 6.4, for those who were not actively bleeding at time of endoscopy.

Mortality:

There were a total of ten deaths (4.65 %), eight were men and two were women, aged 57-95 years (mean = 73.7; median = 70.5 years). There was one mortality in the actively bleeding group (3.33%) versus nine in the non-actively bleeding group (4.86%).

The cause of death was related to upper gastrointestinal bleeding in four cases (two due to

esophageal varices, one due to duodenal ulcer and in one an endoscopy was not done). The others died of pulmonary embolism (one patient), DIC and sepsis (two patients), and other serious illnesses (cerebrovascular accident, ischemic heart disease, left ventricular failure, diabetes mellitus, and hypertension (three patients).

Surgical intervention:

Surgery was done for fifteen patients (6.97%); two in the actively bleeding group and 13 in the non-actively bleeding group (Table 6). Two patients died post-operatively; one with gastric malignancy (radical gastrectomy) after 37 days, and one with bleeding DU (third bleed) due to DIC and sepsis.

Incidence of upper gastrointestinal bleeding in Kuwait:

The overall incidence of acute upper gastrointestinal bleeding in Kuwait is approximately 28.3 per 100,000 population. The incidence in the Capital, Mubarak Al-Kabeer, Farwania, and Adan areas per 100,000 population is 57, 44, 23, and 12.6, respectively.

DISCUSSION

Upper gastrointestinal bleeding is a major cause of admission to hospitals worldwide. The epidemiology, etiology and outcome of upper gastrointestinal bleeding varies significantly in different geographic regions depending on the demographic and socioeconomic characteristics of the local population.

Kuwait is a small country located in the northern Arabian Gulf region. Like most developing countries, almost half of Kuwait's native population is less than eighteen years of age^[1]. Moreover, nearly 60% of the entire population consists of expatriates who come to Kuwait on temporary work permits. The typical profile of such expatriates is that of a young man, of an Arab or Asian extraction (Indian subcontinent and the Philippines). Egyptians account for most of the foreign residents of Kuwait. The Arab population of Kuwait is also unique in that alcoholism is rare due to religious and social taboos.

This study bridges an important gap in our knowledge of the epidemiology and outcome of upper gastrointestinal bleeding in Kuwait. It revealed a number of interesting findings. For instance, most patients with upper gastrointestinal bleeding were men. Moreover, only 40% of patients were Kuwaiti nationals. Both observations were not surprising given the demographic characteristics alluded to earlier. Furthermore, the

incidence of upper gastrointestinal bleeding requiring hospitalization is lower than that reported in Western countries^[2,3]. Another important observation was that gastric ulcer, as a cause of upper gastrointestinal bleeding, was extremely rare compared to Western series. Both observations may be explained by the fact that most non-steroidal anti-inflammatory drugs (NSAIDs) can only be obtained by prescription in Kuwait whereas NSAIDs are over-the-counter in most European countries.

Gastric cancer was also a rare cause of upper gastrointestinal bleeding in this study, despite the endemicity of *Helicobacter-pylori* in Kuwait^[4]. This raises questions about the role of *H. pylori* and the importance of geographic variation in the pathogenicity of different strains of this organism. Another conceivable explanation for the low incidence of gastric ulcers and gastric cancer is that the mean age of our population is significantly lower than that of Western patients^[5].

Variceal hemorrhage accounted for 23.7% of upper gastrointestinal bleeding episodes in the current study. This is three to four times higher than what had been reported in the European studies^[2, 3, 5]. Most patients with variceal hemorrhage were Egyptian expatriates among whom portal hypertension due to hepatitis C viral infection and bilharziasis is common.

The overall mortality rate in our patient population was 5% which is somewhat lower than the 10-15% reported in the U.K.^[6-13]. Most deaths occurred in elderly patients who suffered from serious co-morbid conditions such as pulmonary embolism, sepsis, DIC, ischemic heart disease, cerebrovascular accident, hypertension, etc. The lower morbidity rate in this study may also reflect the younger age of our patient population compared with Western patients. Furthermore, the current management policies in our hospitals seem to have yielded outcomes similar to published data from developed countries.

In conclusion, duodenal ulcers and esophageal varices are the most common causes of upper gastrointestinal bleeding in Kuwait. The rarity of gastric ulcers and cancer deserves further studies.

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