Upper Gastrointestinal Bleeding in Bahrain

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Objective: To determine demographic data, etiological factors, mortality rate and risk factors for death from upper gastrointestinal (UGI) bleeding in Bahrain.

Design: All patients diagnosed as UGI bleeding from January 1994 to February 1995 were included in this study. This data was collected retrospectively up to October 1994, and thereafter prospectively. For satistical analysis the whole data was considered retrospective.

Results: One hundred and eighty six cases were admitted during this period, 140 males and 46 females (3:1). Eighty percent were Bahrainis. The age ranged between 17 years to 99 years (average 50.9 years). The presenting symptoms were melena in 136 (73.1%) patients and haematemesis in 57 (36.1%) patients. A total of 162 (87%) underwent diagnostic UGI endoscopy out of which 109 (67%) within 48 hours of admission. Eighty seven (53%) had duodenal ulcers, 17 (10.2%) had oesophageal varices and 11 (6.6%) had gastric ulcers. Twenty nine (15%) patients underwent endoscopic sclerotherapy. Blood transfusion was required in 126 (67%) cases and 4 patients underwent surgery, two cases as an emergency. Direct mortality attributable to bleeding was 11.2%.

Conclusion: We conclude that our demographic data of UGI bleeding is similar to the other series reported. The risk factors identified in our study: age above 60 years, massive bleeding as evidenced by haemodynamic instability and higher blood transfusion requirements, concomitant illness and probably low rate of surgical intervention. Aggressive management in this group of patients may help in reducing the mortality from UGI bleeding.

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UGI bleeding is one of the most common medical problems world wide. Many studies have been carried out to identify the etiology, demographic and risk factors for death from UGI bleeding[1,2]. Very few studies are available from the Arab World[3,4]. This study was carried out at Salmaniya Medical Centre (SMC), Bahrain, to determine demographic data, etiological factors, mortality rate and risk factors for death from UGI bleeding.

METHODS

Patients

All the patients diagnosed as UGI bleeding from January 1994 to February 1995 were included in this study. This data was collected from the Medical Record Section and Endoscopy Registry for the period between January 1994 and October 1994 and therafter prospectively till February 1995.

Patients who were admitted for other illnesses and who subsequently developed UGI bleeding were also included. Data was collected in a specific form to include demographic details, risk factors, haemodynamic status, endoscopic findings, blood requirements and treatment modalities. For statistical purposes the whole data was considered retrospective.

Endoscopy

UGI endoscopy was performed by using Olympus OES 20 series Gastroscopes. Endoscopic findings were considered causative lesions if they had one or more signs of recent haemorrhage (SRH). Single finding like erosions and clear lesions were considered the causative lesion if no other source of bleeding was identified.

Mortality

Mortality from UGI bleeding was considered "direct" if the exasanguination was the direct cause; and "indirect" if the patient of UGI bleeding died of other cause.

Grouping

The patients were divided into two groups: (1) Those who survived "Survival group" and (2) those who died "Mortality group". All the parameters were compared between the two groups.

Statistical Methods

Statistical analysis was carried out by using students 't' test and multiple regression analysis was done by using SP-SS software system.

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RESULTS

Table 1 Sociodemographic data

	Survival group		Mortality group		Total	
Number	158	84.9%	28	15.1%	186	100%
Average age (yr)	48.5		64.2		50.9	
Bahraini	50.3		68.6		53.1	
Non-Bahraini	41.9		44.0		42.2	
Age range (yr)	17-99		21-92		17-99	
Age >60 yrs	51	32.3%	18	64.3%	69	37.1%
Males	119	75.3%	21	75.0%	140	75.3%
Females	39	24.7%	7	25.0%	46	24.7%

UGI bleeding is one of the common causes of emergency admissions to the department of Medicine accounting for 2.5% of admissions. It is more common in males than females (3:1). Mortality is more common in older age >60 years 64.3% vs 32.3 % in the younger age group (P<0.001). Haematemesis was more common presentation in the mortality group 50% vs 24% in survival group (P<0.005). Higher blood transfusion requirement is associated with higher mortality 28.9% vs 1.5% (P=0.007) although the initial hematocrit values were not significantly different (9.7 gm% vs 9.4 gm%). Associated systemic illnesses such as chronic respiratory disease and chronic liver disease are assoicated with higher mortality (75% in mortality group vs 40.5% in survival group) (P<0.001).

Table 2: Clinical features

	Survival group		Mortality group		Total	
Melena	119	75.3%	17	60.7%	136	73.1%
Hematemesis	38	24.1%	14	50.0%	52	27.9%
NSAID	36	22.8%	7	25.0%	43	23.1%
Aspirin	14	8.8%	1	3.6%	15	8.1%
Admission BP (Av)	129/73		114/65		126.8/72	
Admission Pulse	96/min		100/min			
Admission Hb (g/dl)	9.7		9.4			
Lowest Hb (g/dl)	8.6		7.1			
Discharge/Last.Hb	11.1		8.8			
Blood transfusion	101	63.9%	25	89.3%	126	67.7%
No. of units (Av)	3.1		4.9		3.5	
Associated illness	63	40.5%	21	75.0%	85	45.6%
Chronic liver disease	15	9.5%	6	21.4%	21	11.3%
Respiratory diseases	7	4.4%	5	17.8%	12	6.5%
Malignancy	3	1.9%	5	17.8%	8	4.3%

NSAID = Non-steriodal anti-inflammatory drugs
BP = Blood pressure, Hb = Hemoglobin

Duodenal ulcer was the most common endoscopic finding in both mortality and survival groups. Oesophageal varices and malignancy were equally common in both groups. Multiple regression analysis revealed that patient age, parameters of severity of bleeding were independent variables for mortality. Emergency surgery was carried out in only 2.2% of cases.

DISCUSSION

Salmaniya Medical Centre (SMC) is the main referral centre in Bahrain. UGI bleeding accounted for about 2.5% of the

Table 3: Causative lesions

	Survival group		Mortality group		Total	
Endoscopy	145		17		162	87.1%
Barium meal	3		1		4	
Total	148		18		166	
1. Duodenal ulcer	82	55.4%	5	27.8%	87	52.4%
2. Gastric ulcer	10	6.8%	1	5.6%	11	6.6%
3. Esophageal varices	12	8.1%	5	127.8%	17	10.2%
4. Duodenitis/erosions	6	4.1%	0		6	3.6%
5. Gastritis/erosions	9	6.1%	0		9	5.4%
6. Esophagitis hernia	10	6.8%	2	11.1%	12	7.2%
7. Gastric malignancy	2	1.4%	4	22.2%	6	3.6%
8. Stomal ulcer	3	2.0%	1	5.6%	4	2.4%
9. Mallory-Weiss tear	1	0.7%	0		1	0.6%
10. No obvious lesion	9	6.1%	0		9	5.4%
11. Others	3	2.0%	0		3	1.8%

total admissions to the Department of Medicine during 1994. This gives an estimated annual admission rate of 50 cases per 100,000 population. Seventy five percent of the patients were males and the average age was 50.9 years which is similar to other studies reported from Saudi Arabia[3], Jordan[4] and Western World[12]. Eighty percent of the patients were Bahrainis.

Diagnostic endoscopy rate (87%) was similar to that of ASGE study[14] and other studies reported from Jordan[4], Saudi Arabia[3] and Kuwait[15]. The commonest endoscopic lesion was duodenal ulcer (52.4%) which is similar to reports from other Arab countries, but is higher than the ASGE study (24.3%).

Oesophageal varices accounted for 10.2% of cases in contrast to the Saudi study (19.3%)[3]. This is probably because of high incidence of Schistosomiasis in that series. The number of cases without any obvious endoscopic findings is similar to other series. Nine (5.4%) patients had no lesion on endoscopy. In other studies such cases ranged from 1.3% (Tokan from Jordan)[4] to 12.6% (Hunt from Australia)[9].

A total of 162 (87.1%) patients underwent endoscopy. The rest did not have the procedure for various reasons like associated illness (acute MI and unstable angina) and not giving consent. One hundred and nine (67%) patients underwent endoscopy within 48 hours and the rest within 96 hours of admission. Early endoscopy could have detected more mucosal bleeding lesions in some of our patients. Probably because of this reason gastric or duodenal erosions accounted for only 12% of cases when compared to ASGE study (29.6%)[14].

Mortality from UGI bleeding has remained constant over the past four decades inspite of newer diagnostic and therapeutic modalities. The mortality rates varied between 3.8 - 17% but most studies reported mortality of 10%[14]. In our series it was 11.2%. Various studies have identified different risk factors in this group of patients who die from UGI bleeding. Age over 60 years was significantly associated with increased mortality from UGI bleeding[2,4,6,12,13,16,17]. In our study mortality was also higher in patients aged more than 60 years, 26% vs 8.5% (P=0.0012).

The Mortality Group had greater loss of blood as evidenced

by (i) haematemesis as the presenting symptoms (50% vs 24%) (ii) increased blood requirement of more than 3 units (89.3% vs 63.9%) (iii) low blood pressure of less than 100 mm Hg. (35.7% vs 6.9%). These findings are similar to other studies.

Multiple regression analysis revealed that patient's age, parameters of severity of bleeding like low systolic blood pressure on admission, low hemoglobin and higher transfusion requirements were independent variables in predicting the outcome.

In many series concomitant systemic illness has been identified as an important risk factor for death from UGI bleeding[4,9,10,12,13]. In our study patients with systemic illness such as chronic obstructive airway disease, chronic liver disease, malignancy, acute myocardial infarction had a mortality of 24.7% and those without any concomitant illness had a mortality rate of 6.9% (P<0.001). However this was not found to be an independent variable. Ingestion of NSAIDS or aspirin is strongly associated with bleeding peptic ulcer[1,4,11]. However these drugs had no significant influence on the mortality[1,4,11,16]. This was also true in our series. The need for surgery in the management of UGI bleeding had varied largely based on the patient population studied[14]. Most studies reported surgical intervention between 13.5% to 35%[1,4,8,9,12,14]. Emergency surgery accounted for 52% to 83%[4,12,14]. In our series only 2.2% of cases had surgery. The direct mortality from UGI bleeding was 71% in the Mortality Group which is high when compared to other series (28% - 43.6%)[2,16,13]. The higher direct mortality could partly be due to lower rate of surgical intervension at our Centre.

CONCLUSION

In conclusion the demographic characteristics and the risk factors for mortality from UGI bleeding in Bahrain is similar to that reported in other series. However the direct mortality is somewhat higher than that reported in other series. Aggressive management of patients with higher risk is needed in order to reduce mortality from UGI bleeding.

REFERENCES

1. Shennak MM. Etiology of upper gastrointestinal Bleeding in Jordanian Patients: A prospective study. Ann Saudi Med 1995;15:54-9.

2. Yavorski RT, et al. Analysis of 3,294 cases of Upper Gastrointestinal Bleeding in Military Medical Facitlites. Am J Gastroenterology 1995;90:508-73.

3. Al-Mafarreh, et al. Upper Gastrointestinal Bleeding among Saudis: Etiology and Prevalence. The Riyadh Central Hospital Experience. Ann Saudi Med 1991;11:547-50.

4. Toukan AU. Upper Gastrointestinal haemorrhage in Jordan: An Analysis of Causes, Characteristics and Outcome. Ann Saudi Med 1991;11:539-46.

5. Fleischer D. Etiology and Prevalence of Severe Persistent Upper Gastrointestinal Bleeding. Gastroentrology 1983;84:538-43.

6. Dronfield MW, et al. Outcome of endoscopy and Barium Radiography for Acute Gastrointestinal Bleeding. Controlled Trial in 1037 Patients. Br Med J 1982;284:545-50.

7. Larson DE, Farnell MB. Upper Gastrointestinal Hemorrhage. Mayo Clin Proc 1983;58:371-87.

8. Johnston S. et al. Epidemiology and Course of Gastrointestinal Hemorrhage in Northeast Scotland. Br Med J 1973;3:655-60.

9. Hunt PS, et al. Mortality in Patients with Hemaremesis and Melena: A Prospective Study. Br Med J 1979;1:1238-40.

10. Logan RFA, et al. Death in Acute Upper Gastrointestinal Bleeding. Can Endoscopy reduce Mortality ? Lancet 1976;i:1173-5.

11. Kevin S. Non Steroidal Anti-inflammatory Drugs and Bleeding Peptic Ulcer. Lancet 1986;i:462-4.

12. Silverstein FE, et al. The national ASGE survey on Gastrointestinal Bleeding, I. Study Design and Baseline Data. Gastroint Endosc 1981;27:73-9.

13. Silverstein FE, et al. The national ASGE survey of Upper Gastrointestinal Bleeding, II. Clinical Prognostic Factors. Gastroint Endosc 1981;27:80-93.

14. Silverstein FE, et al. The national ASGE Survey on Upper Gastrointestinal Bleeding, III. Endoscopy Gastroint Endosc 1981;27:94-102.

15. Al-Nakib B, Bayoumi A, Allidawi H. Upper Gastrointestinal Bleeding in Kuwait. J Kwt Med Assoc 1981;15:149-54.

16. Schiller KFR, Truelove SC, Williams DG. Hematemesis and Melena with special reference to factors influencing the outcome. Br Med J 1970;2:7-14.

17. Wheatley KE, Synman JH, Brearley S, et al. Mortality in patients with Bleeding peptic ulcers when those aged 60 or over are operated on early. Br Med J 1990;301:272.