

MORTALITY FOLLOWING EMERGENCY PARTIAL GASTRECTOMY FOR GASTRO-DUODENAL HAEMORRHAGE

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INTRODUCTION

Haematemesis and melaena are still common conditions necessitating emergency hospital admissions and operations. Patients with these complaints are usually admitted to the medical wards, and a surgeon is consulted when the need for surgical treatment is thought to arise. Surgical treatment still involves a considerable amount of risk. The aim of this review is to investigate whether it is possible for both physicians and surgeons to work closely to improve the prognosis of patients presenting with symptoms of gastro-duodenal bleeding. Various factors which may affect prognosis are evaluated.

MATERIAL

The material consists of 108 patients who underwent partial gastrectomy at Thomson Road General Hospital between January 1965 and March 1970. Records of 3 cases are incomplete. The surgical procedure in this unit is Polya partial gastrectomy, occasionally Billroth I, usually removing the ulcer and distal two-thirds of the stomach. Twenty three patients died, giving a mortality rate of 21.3%.

TABLE I
AGE

Age in Years	No. of Patients	No. of Deaths	%
<50	35	4	11
51 - 60	29	8	27
61 - 70	31	7	23
71 - 80	10	4	40
81 and above	2	0	0

In surgery, operative mortality increases with age. This does appear to be so in the series under study. Mortality is low below the age of 50.

TABLE II
SEX

Sex	No. of Patients	No. of Deaths	%
Male	86	17	20
Female	22	6	27

Sex does not appear to have a significant influence on mortality.

TABLE III

PREVIOUS HISTORY OF ULCER SYNDROME AND BLEEDING

History of Ulcer Syndrome	Total No.	No. of Deaths	%
+ve ulcer history only	42	6	14
+ve ulcer history and +ve previous bleeding	25	3	12
-ve ulcer history and +ve previous bleeding only - - -	5	1	20
--ve ulcer history and --ve previous bleeding	33	13	39

Sixty-seven had previous ulcer history, varying from 3 months to 20 years. Thirty patients had previous bleeding varying from one to three episodes. Thirty-three patients had no previous ulcer history or previous bleeding whatsoever, and there were 13 deaths. In this study, we are of the opinion that chronic ulcer patients even complicated with recurrent episodes of bleeding have better prognosis than those who bled for the first time. Perhaps this is because history of ulcer syndrome and previous bleeding are invaluable guides to early diagnosis, and early surgery. We will show later that early surgery influences mortality favourably.

TABLE IV

HISTORY OF TAKING ULCEROGENIC DRUGS

History of Taking Ulcerogenic Drugs	No. of Patients	No. of Deaths	%
+ve	17	4	24
-ve	88	19	21

The drugs are aspirin, aspirin-like compounds and steroids. Of the 17 patients who took drugs, 16 took aspirin and aspirin-like compounds, and one took steroids. Among this group 4 died. From this study it would appear there is no significant difference in the mortality rate between bleeding due to drugs and bleeding not due to drugs.

TABLE V
ASSOCIATED DISEASES

History of Associated Diseases	No. of Patients	No. of Deaths	%
· ve	47	14	30
ve	50	9	18

Forty-seven patients were admitted with a history of associated diseases; 14 died from them. This gives a mortality rate of 30%, while among the patients with no history of associated diseases, the mortality rate is only 18%.

TABLE VI
PRESENTING SYMPTOMS

Presenting Symptom	No. of Patients	No. of Deaths	%
Haematemesis	24	3	14
Melaena	25	7	28
Haematemesis and Melaena	56	13	23

The presenting symptoms are haematemesis, melaena, and haematemesis and melaena. The mode of presentation closely influences mortality rate. Haematemesis and melaena represent a more severe bleeding, and melaena is sinister, while haematemesis is alarming, though not necessarily severe. In this series, haematemesis alone carries the lowest mortality as compared with the other 2 presenting symptoms.

TABLE VII
SEVERITY OF HAEMORRHAGE

Blood Transfusion	Survival Group	Mortality Group
Pre-operatively	1,330 ml.	1,990 ml.
During operation	750 ml.	750 ml.
Post-operatively	230 ml.	700 ml.
Total amount of blood	2,310 ml.	3,440 ml.

Bleeding is classified as massive, moderate or minimal, according to the amount of blood transfusion given and the Hb. level of the patient.

Massive	Blood >2,000 ml. Hb. <7 gm. %
Moderate	Blood <2,000 ml. Hb. --7 to 11 gm. %
Minimal	Blood nil Hb. >11 gm. %

It is a routine procedure at Thomson Road General Hospital to transfuse the patient pre-operatively until the blood pressure is stabilised and to continue the transfusion throughout the operation and also post-operatively if necessary. From this study it would seem that the mortality rate increases with the severity of the haemorrhage, as judged by the amount of blood transfusion.

TABLE VIII
CONDITION BEFORE SURGERY

Hypotension	No. of Patients	No. of Deaths	%
· ve	48	13	27
-ve	57	10	18

Hypotension here is defined as having a systolic pressure of under 90 mm. Hg. or a fall in systolic pressure by at least 30 mm. Hg. Patients who have to be resuscitated from shock before surgery are greater operative risks.

AMOUNT OF TRANSFUSION

From Table VII, one can see that more blood was transferred for those who died both pre- and post-operatively. The severity of bleeding and the need for massive transfusion are well noted. Under-transfusion does not appear to be a contributory factor to mortality in our experience with the present series. Perhaps the study of the rate of blood and fluid transfusions will be more significant and revealing, than the total amount transfused.

TABLE IX
TIME INTERVAL BETWEEN ADMISSION AND SURGERY

	Interval between Admission and Surgery
Survival group	40 hrs. 30 mins.
Mortality group	66 hrs. 30 mins.

In this series the shortest time interval is 1 hr. 45 mins. and the longest is 6 days. The difference noted in this table is significant. Delay in surgery increases mortality.

PATHOLOGY

In this series, the sources of bleeding are:

1. Gastric ulcer
2. Duodenal ulcer
3. Gastric erosion
4. Cancer
5. Stomal ulcer
6. No lesion found

Acute gastric erosion carries the highest risk. This is because the bleeding is usually massive and severe. Gastric ulcer carries a mortality rate double that of duodenal ulcers. We feel this is because of the age structure and incidence of associated diseases which both greatly influence operative mortality. About 80% of gastric ulcer patients are above the age of 50. Incidence of associated diseases increases with age, and above 70, it reaches to almost 100%. The age distribution of pathology and associated diseases encountered are shown in Tables X and XI respectively.

TABLE X
AGE AND PATHOLOGY

Age	G.U.	D.U.	Ca.	Erosion	S. Ulcer	Nil
50	11	12	2	8	1	2
51-60	20	7	1	1	—	1
61-70	16	4	4	5	1	—
71-80	6	2	1	1	—	—
81 and above	1	1	—	—	—	—
Total	54	26	8	15	2	3
Mortality	13	3	2	5	0	0
%	24%	12%	25%	33%	—	—

TABLE XI
AGE AND ASSOCIATED DISEASES

Age	Total No. of Patients	No. with Associated Diseases	%
<50	35	10	19
51-60	29	21	72
61-70	31	26	84
71-80	10	10	100
81 and above	2	0	0

DISCUSSION

In this series, mortality is unfavourably influenced by:

1. Old age
2. Complicating diseases
3. Massive haemorrhage
4. Absence of recurrent bleeding and previous ulcer history
5. Pathology
6. Delay in surgery

Certain factors are unavoidable and a certain amount of risk has to be taken by the patient and the surgeon alike. But there are other factors which are controllable. The idea that patients who bleed for the first time have a better prognosis and do well with conservative treatment is not altogether true. This may be a fallacy because it often gives one false sense of hope and encourages one to persist with conservative treatment. Absence of previous ulcer history often does not help one to arrive at an early diagnosis. We feel that the indication for surgery should be based on the severity of the haemorrhage. Delay in surgery definitely increases the mortality rate. We are of the opinion that patients should be operated on as soon as their condition has been stabilised by blood transfusion so that precious time and blood may not be wasted.

SUMMARY

The mortality rate of 108 emergency partial gastrectomy cases is studied. The severity of haemorrhage should be an indication for the need of surgical consultation. Adequate transfusion pre-operatively and early surgery can considerably decrease the mortality rate.

REFERENCES

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